Transport Canada Transports Canada

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TRANSPORTATION IN CANADA 2003

ANNUAL REPORT

Canada

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Minister of Transport | Ministre des Transports

Ottawa, Canada K1A 0N5

Her Excellency the Right Honourable Adrienne Clarkson, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa, Ontario
K1A 0A1

AUG 30 2004

Excellency:

It is with great pleasure that I submit to your attention the eighth Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

The importance of transportation is first and foremost driven by the size of our country. The report clearly shows the fundamental role played by transportation in supporting and enabling both economic and social activities. The state of transportation is assessed through the analysis of the most recent information available on the Canadian transportation system.

Our country's transportation system has to satisfy our transportation needs and to adjust when our needs change. Numerous factors come into play in defining and changing transportation needs, the most significant being the type and level of economic and social activities, their physical location, and trade with other countries.

This report provides information and analysis on trends from which the reader can get a better understanding of the challenges and pressures confronting our transportation system. Some attention, where possible, is devoted to the responses being implemented to face challenges.

Yours sincerely,

Hon. Tony Valeri, P.C., M.P.

03-0110R (97-08)

Canada

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REPORT HIGHLIGHTS

TRANSPORTATION AND THE ECONOMY

- In 2003, the growth of the Canadian economy slowed down significantly, growing in real terms by 1.7 per cent.
- Weakened exports outweighed continued strong consumer expenditures and rebounding business investment to contribute to the economic slowdown.
- The severe acute respiratory syndrome (SARS) outbreak, mad cow disease, the power outage in Ontario and the northeastern United States, and the appreciation of the Canadian dollar all contributed to the economic slowdown.
- The continuing rise of the Canadian dollar prevented exporters from taking advantage of the U.S. economic recovery in the second half of the year.
- The growth rate of the services sector (2.2 per cent) surpassed that of the goods sector (1.8 per cent).
- The value of the Canadian dollar in relation to the U.S. dollar rose steeply throughout most of 2003 from a low of US$0.635 to a high of US$0.773 by year-end. Its average value over the year rose 12.1 per cent from 2002.
- The Consumer Price Index increased by 2.8 per cent in 2003. While energy prices rose by 7.9 per cent, transportation prices increased by 5.2 per cent in 2002.
- In real terms, personal disposable income per capita increased by 0.2 per cent in 2003.
- While the population grew by 0.9 per cent, employment increased by 2.3 per cent.
- Saskatchewan and Alberta were the only provinces in 2003 to have lower economic growth than in 2002. Newfoundland and Labrador, on the other hand, again experienced the strongest growth.
- Canada's trade with the United States fell from its $589 billion peak in 2000 to $531 billion in 2003.
- Trucking accounted for 63 per cent of this trade with the United States, rail 17 per cent, pipeline 10 per cent, air six per cent and marine three per cent.
- Almost 78 per cent of the trade (in value terms) between Canada and the United States carried by trucks took place at six border crossing points: Windsor/Ambassador bridge, Fort Erie/Niagara Falls, Sarnia and Lansdowne in Ontario, Lacolle in Quebec, and Pacific Highway in British Columbia.
- In terms of volume, pipelines had the largest share of the trade with 33 per cent; trucking was second with 28 per cent, followed by marine with 20 per cent and rail with 19 per cent.
- In 2003, Canada's trade with countries other than the United States totalled $185 billion, imports being more significant than exports, and marine and air transportation being the two dominant modes for such trade in terms of both value and volume.
- Tourism expenditures, including expenditures on transportation, increased slightly in 2002. Of transportation expenditures related to tourism, air transportation experienced the largest drop. In 2003, domestic travel increased. Overall, international travel to and from Canada was down in 2003, but international travel by Canadians to countries other than the United States increased.
- Pipeline and air transportation each increased domestic energy consumption by 5.2 per cent in 2003. Road transportation energy use increased by 2.2 per cent, while rail and marine transportation energy use declined by 9.3 and 10.2 per cent, respectively.
- Productivity in transportation grew marginally in 2002.
- Commercial transportation services accounted for four per cent of Canada's value-added GDP. In relation to total provincial/territorial GDP, transportation GDP in Prince Edward Island accounted for only 2.2 per cent of the GDP in 2002, while commercial transportation

services had the most significant share of provincial GDP in Manitoba with 6.0 per cent. Of commercial transportation activity captured under the GDP, Ontario and Quebec accounted for 58 per cent, while Alberta and British Columbia accounted for 28 per cent.

- Investment in transportation represented 2.8 per cent of GDP in 2002.
- Overall transportation-related final demand accounted for 13 per cent of total expenditures in the economy in 2003.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2002/03, transportation expenditures by all levels of government totalled $19.5 billion, $1.2 billion more than in 2001/02. All levels of government contributed to this increase.
- Government fees and tax revenues from transport users totalled $14 billion, 7.7 per cent more than the previous year, of which 74 per cent came from road fuel taxes.
- In 2003/04, direct federal transport expenses are expected to be $1.9 billion, a 6.1 per cent increase over 2002/03.
- In 2003/04, total direct federal subsidies, grants and contributions are expected to grow to $805 million.
- Provincial, territorial and local governments spent $17 billion on transportation in 2002/03, with roughly 79 per cent going to roads and highways.
- Also in 2002/03, governments spent $14 billion on roads, while public spending on public transit services totalled $2.6 billion. Federal and provincial governments spent $2 billion on air, marine and rail transportation.
- In 2003, two contribution agreements for highway improvements were signed with the provinces of Ontario and Quebec under the Strategic Highway Infrastructure Program. Nineteen projects were announced, for a total federal contribution of $264.4 million, which will enhance the efficiency and safety of the national highway system.
- In 2003, more than 20 transportation (highways and transit) projects were announced nationally by the Ministers of Transport and Infrastructure Canada for a total federal contribution of $2.2 billion under the Canada Strategic Infrastructure Fund and the Border Infrastructure Fund.
- In 2003, a bi-national planning and approval process for a new or improved river crossing between Windsor–Detroit was announced ($1.3 million federal share) under the National System Integration Component of the Strategic Highway Infrastructure Program.
- To enhance southern Ontario's vital international linkages, more than $300 million of the federal border funding will be invested in improvements to Canada's top four border crossings, where 65.2 per cent of our bi-national trade with the United States occurs: Windsor, Niagara, Fort Erie and Sarnia.

TRANSPORTATION SAFETY AND SECURITY

- The number of accidents in each of the transportation modes increased in 2003 (for road, the latest data available are for 2002). Despite these increases, the number of accidents in air, rail and road modes, was below the average number of accidents reported in the previous five years. The number of reportable accidents involving dangerous commodities decreased in 2003. The number of fatalities in marine and in rail was down in 2003.
- Rail-related accidents increased by 4.5 per cent in 2003, while fatalities decreased by 20 per cent. Crossing and trespasser accidents continued to account for the majority of fatal accidents (95 per cent) and accidents involving serious injury (92 per cent) in 2003. Fatalities related to crossing accidents dropped from 46 in 2002 to 27 in 2003, while serious injuries increased from 42 to 50.
- Marine accidents increased in 2003, with 483 Canadian vessel accidents compared with 421 in 2002 and 457.4 for the 1998 – 2002 previous five-year average. This increase was attributed to a growth in both shipping accidents and accidents aboard Canadian ships. A total of 19 fatalities and 30 confirmed vessel losses were reported in 2003. Fishing vessels accounted for 54 per cent of the total reported marine accidents, while commercial vessels accounted for 35 per cent.
- Accidents involving Canadian-registered aircraft increased by eight per cent in 2003, mainly as a result of an increase in private operator accidents. The number of fatal accidents remained almost the same in 2003 as in 2002 (31 and 30, respectively), while there were eight more fatalities. Compared with the 1998 – 2002 five-year average, the number of accidents in 2003 fell by eight per cent and there were fewer fatal accidents and fatalities.

- In 2002, with respect to the road safety record, there was a 3.4 per cent increase in casualty collisions from 2001. There was also an increase in road-related fatalities (from 2,781 to 2,936) and a three per cent increase in road-related injuries.
- Annually, there are approximately 30 million shipments involving dangerous goods. In 2003, almost all these shipments arrived without incident at their destination, with the exception of 358 occurrences. Of this number, only two were caused by the dangerous good itself. The majority of deaths and injuries are caused by the accident (e.g., a collision) rather than contact with the dangerous good.
- During 2003, public confidence in the security of the transportation system continued to increase. Working with government, industry and other stakeholders, Transport Canada introduced new security initiatives in all modes and continued to implement security enhancements announced in 2001.
- In 2003, Transport Canada, in collaboration with the Canadian Air Transport Security Authority (CATSA) and other stakeholders, strengthened Canada's aviation security in a number of areas, including: implementing security regulations and updating the standards for screening passengers and training screeners; developing technical requirements for enhancing the restricted area pass system for airport employees; and, developing tools to measure the performance of advanced explosives detection system equipment.
- Progress was achieved on the adoption and implementation of the International Ship and Port Facility Security Code with the development of guidelines for ship and port facility security assessments and plans, consultations on the development of the regulatory framework, and the development of an oversight, compliance and enforcement program.
- In the area of rail security, a Canada–U.S. Declaration of Principles for security and contraband threats to southbound rail processing was under development in 2003.
- The Canada–U.S. Smart Border Declaration continued to be implemented, focusing on infrastructure improvements, intelligent transportation systems and critical infrastructure protection.
- In 2003, the development of the Chemical Biological Radiological and Nuclear (CBRN) Response Initiative was focused on securing access to trained industrial emergency response teams in the event of a terrorist incident involving dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2001, 34 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 77 per cent from road transportation, nine per cent from aviation, four per cent from rail and six per cent from marine.
- Between 1980 and 2002, on-road gas use remained relatively stable. It was not until 1998 that gasoline use rose to 1980 levels. Since then, gasoline use has continued to climb.
- Between 1980 and 2002, road diesel use grew by 140 per cent, a situation largely explained by the changing nature of the freight transportation industry, including the shift towards a "just-in-time" environment and the economic deregulation of transportation activities.
- Over the same period, aviation GHG emissions grew by 33 per cent.
- From 1980 to 2002, rail emissions dropped by about 15 per cent, despite traffic growth.
- Marine emissions fell by 27 per cent between 1980 and 2002.
- The transportation sector accounts for 52 per cent of total nitrogen oxides (NO_x) emissions and 21 per cent of total volatile organic compounds (VOC), the two main ingredients of smog.
- Over the last 15 years, all air pollutant emissions due to transportation have decreased.
- In 2003, Transport Canada developed *Sustainable Development Strategy 2004–2006*, which defined seven strategic challenges. The Strategy was tabled in Parliament in February 2004.
- In 2002, the Government of Canada ratified the Kyoto Protocol and through Budget 2003 provided $2 billion to be allocated to climate change initiatives in the *Climate Change Plan for Canada*. One billion dollars of the funding was allocated in 2003, of which $250 million was set aside for transportation measures.
- A number of key transportation measures (initiatives) benefitted from this funding, including motor vehicle fuel efficiency, advanced technology vehicles and alternative fuel options such as fuel cells, ethanol, biodiesel and natural gas. The Freight Efficiency and Technology Initiative also benefitted. It consists of three components: the Freight Sustainability Demonstration Program; voluntary agreements between the federal government and modal associations; and training and awareness for freight carriers. Transport Canada and Natural Resources Canada also co-led a new Commercial Transportation Energy Efficiency and Fuels Initiative.

- In 2003, eight of the 15 city proposals developed and evaluated under the Urban Transportation Showcase Program, a $40 million initiative aimed at demonstrating and evaluating the impacts of integrated strategies to reduce GHG emissions from urban transportation, were selected for implementation.
- The $3 billion infrastructure investment announced in the 2003 federal budget was identified as a further source of effort to reduce GHGs.
- In 2003, the On-Road Vehicle and Engine Emission Regulations under the *Canadian Environmental Protection Act*, 1999 and the final Off-Road Small Spark-Ignition Engine Emission Regulations were published.
- The 2003 federal budget provided $475 million over five years to accelerate the clean-up of federal contaminated sites in Canada.
- In 2003, a number of initiatives were conducted in provinces and/or municipalities to improve the sustainability of the transportation system: the testing of a canola-oil blend "biodiesel" in a portion of the Saskatoon Transit Service and Saskatchewan Highways fleet; a grant for the design, development and testing of biodiesel fuels for Manitoba transit buses in Canadian prairie conditions; a grant to assess the implementation of alternative fuels in fleet vehicles within Manitoba's Red River Valley Region; a tax rebate program in Ontario for vehicles powered by alternative fuel; a ten-year plan to expand and review Ontario's transit infrastructure; the completion of a pilot test of using 20 per cent biodiesel blend fuels in the Société de Transport de Montréal transit buses; and the New Brunswick release of a Strategy Plan with "environmentally responsible and proactive" as one of its nine key strategic objectives.

RAIL TRANSPORTATION

- No track was discontinued in 2003 and only a small amount of track was transferred.
- Track and facilities in Quebec owned by Canadian American and Quebec Southern Railway were transferred to the Montreal, Maine & Atlantic Railway. Canadian National (CN) transferred track in Saskatchewan to a railway called Prairie Alliance for the Future.
- Of total rail revenues in 2002, 88.5 per cent were generated by CN, Canadian Pacific Railway (CPR) and VIA Rail.
- Class I railways consumed 1.8 billion litres of fuel in 2002, compared with 1.9 in 1990.
- CN reported a 2.0 per cent increase in tonne-kilometres moved in 2002 over 2001, while CPR's output declined by 3.3 per cent.
- In 2003, rail car loadings decreased slightly to 259.8 million tonnes. In Western Canada, there was a two per cent drop, while Eastern Canada increased by one per cent.
- Shipments of coal and coke dropped 14 per cent in 2003, chemicals four per cent to 14.4 million tonnes, iron ore 14 per cent to 31.7 million tonnes and forest products four per cent to 42.6 million tonnes. Meanwhile, 2003 shipments of grain, total forest products, fertilizer materials and automotive products increased.
- Export rail tonnage increased 6.4 per cent in 2003 to reach 69.9 million tonnes, with forest products, chemicals and fertilizer materials being the largest contributors to such traffic. The largest share of rail export volume to the United States originated in Ontario (28 per cent).
- In 2003, there was a slight increase in import rail tonnage to 20.5 million tonnes. Chemicals, agricultural and food products, grains and metals accounted for 59 per cent of total import volume. Automotive imports remained the top commodity. Ontario was the leader in terms of rail import volumes, accounting for 53 per cent of the total.
- Fort Frances and Sarnia, both in Ontario, accounted for 19.7 and 16.8 per cent of rail exported trade, respectively, with forest products, fertilizer materials and chemicals the major commodities exported at these border crossings. In value terms, the leading border crossing points were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 82 million tonnes of goods to and from Canadian ports in 2002, 11 per cent less than in 2001.
- British Columbia, Alberta and Saskatchewan remained the main originating source of rail–marine exports in 2002 despite declines over the previous year. Coal and grain exports both declined, but fertilizer exports increased. Rail–marine imports increased slightly in 2002, and Quebec and Ontario remained the two major destinations for such traffic.

- Intercity rail passenger traffic increased by 1.7 per cent in 2002. VIA Rail reported a slightly greater increase of three per cent.
- The productivity of rail freight carriers increased by 2.4 per cent in 2002.
- VIA Rail's productivity declined by 1.2 per cent in 2002.

ROAD TRANSPORTATION

- In 2003, the *Motor Vehicle Transport Act* (MVTA) was amended.
- Revisions to federal regulations on the hours of service rules for commercial vehicle drivers (bus and truck) and Motor Carrier Safety Fitness Certificate Regulations were published in 2003 in the *Canada Gazette* Part I.
- In 2003, British Columbia was the only jurisdiction to report administrative changes to existing bus regulations.
- The U.S. government introduced new border security measures in 2003 for the prior notification requirements on food shipments, and also announced the timeframe for advanced notification requirements for all cargo shipments.
- Heavy trucks and cars crossing the Canada–U.S. border decreased again in 2003.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for 62 per cent of total revenues of large for-hire trucking firms in 2002, while the share of specialized trucking firms decreased marginally.
- According to the 2002 Canadian Vehicle Survey, there are 17.3 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada, including 10.4 million passenger cars and station wagons, 2.5 million vehicles listed as vans, three million pickup trucks and 1.3 million sport-utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 42 per cent of vehicle-kilometres in 2002. They were driven on average more than cars and station wagons (18,100 kilometres versus 15,800 kilometres) and had a marginally higher vehicle occupancy ratio (1.65 persons).
- There was an average of 550 vehicles per 1,000 people in Canada in 2002.
- According to the Canadian Vehicle Survey, there were 580,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 315,000 were medium-sized weighing between 4,500 and 15,000 kilograms. Almost 268,000 were Class 8 (heavy) trucks weighing more than 15,000 kilograms.
- Ontario (38 per cent), Alberta (24 per cent) and Quebec (13 per cent) accounted for 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 18 billion vehicle-kilometres in 2002, compared with fewer than 5.5 billion for medium-sized trucks.
- Empty haul movements accounted for 16 per cent of heavy truck vehicle-kilometres, compared with about eight per cent for medium-sized trucks in 2002.
- In 2002, domestic and transborder for-hire truck traffic by Canadian firms generated revenues of $8.3 billion and $7.3 billion, respectively, with six groups of commodities accounting for 81 per cent of these revenues: manufactured products, food products, forest products, metal and steel products, automobile/transport products and plastic/chemical products.
- Ontario dominated with 36 per cent of intraprovincial trucking traffic, 33 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. The heaviest traffic flows were between Ontario and the U.S. central region and Ontario and the U.S. southern region, with 18.4 billion tonne-kilometres and 11.4 billion tonne-kilometres, respectively.
- Total factor productivity in the trucking industry fell by 1.8 per cent in 2002.
- Because prices increased on average more than unit costs, the industry's average operating ratio improved in 2002.
- The revenues of urban transit operators increased by seven per cent in 2002. Prices increased by 2.9 per cent and output grew by 2.5 per cent.
- Productivity declined by 3.7 per cent and transit costs per unit of output increased by 4.5 per cent in 2002.

MARINE TRANSPORTATION

- Canada brought into force in 2003 new limits per oil spill incidents from tankers as part of the International Convention on Civil Liability for Bunker Oil Pollution Damage and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage agreed to by the International Maritime Organization.
- In 2003, the International Maritime Organization adopted a Protocol establishing a Supplementary Fund that provides a third layer of compensation for claimants of oil pollution damages.
- The report reviewing the *Canada Marine Act* was released in 2003.

- By year-end, 99 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached $279 million in 2002, up $13 million from 2001, compared with a decrease of $6.7 million in expenditures. Vancouver and Sept-Îles reported the largest increases in revenues. Net income of CPA ports decreased by $3.7 million in 2002.
- Tonnage handled at CPA ports dropped from 219.9 million tonnes in 2001 to 215.1 million tonnes in 2002. Vancouver (29 per cent), Saint John (12 per cent), Sept-Îles (nine per cent), Montreal (nine per cent) and Quebec City (eight per cent) combined accounted for 67 per cent of total cargo handled by CPAs.
- In 2002, CPAs handled 52.7 per cent of total port traffic.
- At the end of 2003, of the total number of fishing harbours, 670 were managed by harbour authorities and 353 were small craft harbours managed by Fisheries and Oceans Canada.
- In 2003, of the four pilotage authorities, only the Great Lakes Pilotage Authority generated a net loss.
- The Canadian Coast Guard is developing an Automatic Identification System that will allow it to improve the surveillance of vessels with "near real-time" identification and tracking of vessels approaching and operating in Canadian waters.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 40.87 million tonnes of traffic in the 2003 season, 1.3 per cent less than in 2002.
- Ferry services carried approximately 39 million passengers and 15.4 million vehicles in 2003.
- International cruise ship traffic in 2003 decreased for the first time in 21 years. It also decreased at the ports of Montreal, Quebec City and Saint John, but increased at Halifax.
- Domestic cargo loaded and unloaded at Canadian ports increased to 62.6 million tonnes in 2002, a 1.35 per cent increase from 2001.
- A total of 282.7 million tonnes of international cargo was handled at Canadian ports, compared with 286.9 million tonnes in 2001. Of that total, 114.3 million tonnes were related to Canada's marine traffic to and from the United States, up slightly from 2001, while 168.4 million tonnes had to do with Canada's marine trade with overseas countries (excluding the United States).
- The value of Canadian international marine trade in 2002 was $103.2 billion, excluding shipments via U.S. ports.

AIR TRANSPORTATION

- Air Canada filed for court protection under the *Companies' Creditors Arrangement Act* (CCAA) on April 1, 2003, and Air Canada's Board of Directors accepted new equity of $650 million from Trinity Investments to support its emergence from CCAA protection.
- In March 2003, the World Health Organization issued a worldwide advisory for countries like Canada with confirmed cases of severe acute respiratory syndrome (SARS). Six special health screening measures were put in place at six Canadian airports: Toronto, Vancouver, Ottawa, Calgary, Dorval (Trudeau) and Mirabel.
- The Air Travel Complaints Commissioner issued two reports in 2003 covering the year 2002. Although the number of complaints continued to decline, industry difficulties, declining revenues and rising costs led to settlements requiring difficult negotiations to reach acceptable solutions.
- A comprehensive review of the federal government rent policy for leased airports in the National Airports System (NAS) was conducted with the assistance of independent financial experts and independently of the development of a proposed *Canada Airports Act*.
- In 2003, a review of the space occupied by federal departments and agencies at key NAS airports was launched.
- A study was started to look at the financial viability of regional and small airports transferred since the introduction of the National Airports Policy.
- Amendments to regulations of the computer reservation systems were proposed on October 25, 2003, and published in the *Canada Gazette*.
- The Air Travellers Security Charge, introduced to fund the costs of the enhanced air travel security system put in place in response to the September 11, 2001, terrorist attacks, was reduced on March 1, 2003, for air travel within Canada from $24 to $14 for round-trip travel.
- The national implementation of the Electronic Collection and Dissemination of Air Transportation Statistics initiative began on April 1, 2003, to permit the electronic collection of all operational air transportation statistics from approximately 170 domestic, U.S. and other international air carriers serving airports in Canada.

- Since September 22, 2001, when international insurers withdrew their previous level of coverage, the federal government has been providing short-term indemnification for third-party war and terrorism liabilities, renewable for periods of 90 days.
- A new Canada–U.S. Air Transport Preclearance Agreement was brought into force on May 2, 2003, formalizing in-transit preclearance at Vancouver airport and allowing for its introduction at Calgary, Montreal and Toronto airports.
- Several new designations were announced by the Minister of Transport in 2003 as part of the new multiple designation policy allowing all carriers to operate scheduled international air services to any air market, regardless of size: Air Canada (Cuba), Air Transat (Dominican Republic and Mexico), HMY Airways (Mexico), Skyservice Airlines (Dominican Republic and the United Kingdom) and Zoom Airlines (Dominican Republic, Mexico and the United Kingdom).
- Canada participated in negotiations or consultations in relation to international air services with seven countries in 2003: Vietnam, France, Russia, Luxembourg, Israel, Singapore and Chile.
- In 2003, the Airports Capital Assistance Program funded 43 projects at 31 airports related to safety, asset protection and operating cost reduction.
- Despite the decline in passenger traffic in 2002, total revenues of the nine largest NAS airports increased by six per cent.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2003, with $8.2 billion in revenues between October 1, 2002, and September 30, 2003, and serving 62 points in Canada, 49 in the United States and 43 international destinations in 30 countries. It has three wholly owned subsidiaries: Air Canada Jazz, Zip Air and Air Canada Vacations. It offers premium charter services to sport teams and businesses under Jetz. Four independent local service operators offered regional services on behalf of Air Canada: Air Creebec, Air Georgian, Air Labrador and Central Mountain Air.
- Low-cost, no-frills carriers offering domestic and transborder services in 2003 included WestJet, CanJet and Jetsgo.
- Canadian charter airlines providing services both domestically and internationally in 2003 included Air Transat, Skyservice Airlines, HMY Airways and Zoom Airlines.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air and North-Wright Airways complement the other airlines by offering flights to the most remote communities in the Arctic.
- Twelve U.S. airlines served 18 Canadian cities, and 36 foreign airlines provided services from Canada to 47 international destinations in 34 countries.
- A number of all-cargo airlines provided jet services in 2003 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: All-Canada Express, Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2003, more than 2,300 airline licences were active, an indicator of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2003, mainly as a result of fractional ownership.
- In 2002, the total revenues generated by the air transport industry dropped by 3.5 per cent for the second consecutive year.
- Productivity stayed the same in 2002 and factor prices increased by 2.8 per cent. WestJet and Air Transat reported increased profits.
- Canada's air trade with countries other than the United States stayed essentially the same in 2003 as in 2002, with a surge in exports being offset by a decrease in imports. Since the year 2000, the air cargo trade between Canada and the United States has been declining, a drop which has been more significant on the import side.
- In 2002, the number of tonnes carried by Canadian air carriers remained basically the same as in 2001, with five per cent growth in international markets and an 11 per cent decrease in air cargo to the United States.
- Air passenger traffic fell by two per cent in 2003 to 54 million passengers. Transborder traffic was the most affected market with a four per cent decrease.

INTRODUCTION 1

Using the most current information available, the state of transportation in Canada is presented in the 2003 Annual Report.

The *Canada Transportation Act* (1996) places a statutory responsibility on the Minister of Transport to table each year an annual report on the state of transportation in Canada. Section 52 of the Act delimits the mandate and the nature of the responsibility associated with the annual report requirements:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

(a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;

(b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expenses;

(c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and

(d) any other transportation matters the Minister considers appropriate."

The 2003 annual report is the eighth submitted by the Minister since the *Canada Transportation Act* came into force. Using the most current data and information available, this report presents an overview of transportation in Canada. Because the most recent year for which data were available was used, it is not always 2003 data that are reported. The scope covered by the report is not limited to federal transportation responsibilities. The report therefore provides a unique comprehensiveness despite its limited coverage of urban and intermodal transportation matters.

In recent years, the report has been complemented by an Addendum posted on Transport Canada's Web site. The Addendum provides more detailed information on subject matters covered in the overview of transportation in Canada. Since the 2002 Annual Report, the scope of the report's coverage was maintained but the use of the Addendum was extended, allowing for a more succinct review of the state of transportation in Canada. Readers interested in more detailed and/or time-series information are invited again this year to consult the Addendum on Transport Canada's Web site at www.tc.gc.ca. Individual references to the Addendum are found either in the text itself or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in this year's report or found in tables in the Addendum. In addition, annual reports from 2000 onward are easily accessible at www.tc.gc.ca. Earlier reports can be made available upon request.

Transportation is everywhere in the lives of Canadians. Transportation opens markets to natural resources, agricultural products and manufactured goods, and it supports service industries. It alleviates the challenges delimited by topography. It also links communities and reduces the effects of distances between people. These essential roles of transportation are indicative of its intertwined and interdependent relationships with the economic and social fabrics of our society. Like society, transportation needs do evolve over time as circumstances and conditions change.

Whether at the regional or at the sectoral level, fluctuations in economic activities affect transportation demand. This is because the demand for transportation services emanates from the needs coming from all sectors of the economy. Transportation demand is a derived demand. Therefore, to review the state of transportation, it is necessary to begin by reviewing the performance of the Canadian economy (Chapter 2). Detailed information related to employment, trade and tourism, as well as transportation energy consumption, can be found in the Addendum.

Chapter 3 presents the most recent information on government transportation spending and revenues. In doing so, it addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific assets of the transportation system infrastructure. The private sector also makes expenditures on and investments in Canada's transportation system, but these are not covered in this chapter. The reader must keep in mind that the public sector does not plan or fully control all such expenditures and investments.

Chapter 4 reviews safety and security in the transportation system. A safe transportation system remains a fundamental priority for Canada. This chapter provides an up-to-date overview of the most recent accidents and incidents statistics by mode. It also reviews the more recent enhancements to security in light of the increased emphasis placed on security since the events of September 11, 2001.

Chapter 5 reviews environmental trends in transportation and the environment, devoting special attention to climate change and to air pollutants emissions associated with urban transportation activities. With Canada's commitment to the Kyoto Protocol and to the United Nation's Framework Convention on Climate Change, this chapter presents an overview of the initial elements of Canada's proposed response to climate change. The chapter also reviews the other environmental challenges associated with transportation activities more specifically related to air quality and water pollution. It presents an overview of provincial/municipal sustainable transportation initiatives.

Chapters 6 to 9 give the most recent information on transportation according to the different modes of transportation. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as special events in 2003, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matters as found in the other three modal chapters.

Most of the data used and presented in this report or in the Addendum came from sources external to Transport Canada. The onus for data validation rests with the external sources. Proper care and attention to data quality and limitations was devoted to the production of this report, and footnotes are used where issues needed to be flagged. Within the constraints of the statutory deadlines under which the report was produced, serious attempts to address data-related issues were made. When data accuracy was confirmed by the relevant source(s), the challenge to data quality was stopped. This report does not attempt to circumvent data limitations by estimating, nor does it attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY

2

The Canadian economy slowed down in 2003.

CANADIAN ECONOMIC PERFORMANCE

After strong growth in 2002, the Canadian economy slowed down considerably in 2003 as real growth in gross domestic product (GDP) at market prices increased by only 1.7 per cent, a rate about half that of the previous year. While consumer spending remained strong and business investment rebounded, the economy was affected by several factors that weakened exports. The year started strongly with quarterly growth of 2.5 per cent at annual rates. The economy weakened in the second quarter, however, as growth dipped by 1.0 per cent, largely due to the effects of the outbreak of severe acute respiratory syndrome (SARS), the mad cow disease scare and the appreciating Canadian dollar. Through the rest of the year, the economy edged up with moderate growth, although the power outage in Ontario and the northeast United States reduced output in August and the continuing rise in the value of the Canadian dollar hampered exporters' ability to profit from the U.S. economic recovery.

Consumer expenditures increased 3.3 per cent in real terms in 2003, once again providing solid support for the economy. Low interest rates and good employment growth were behind this increase. Sales of new vehicles were 6.4 per cent lower than in 2002 but still the second highest level ever reached. In 2003, 217,800 new housing units were started, the highest level since 1988. Although residential construction grew 7.5 per cent, it was only half the growth rate of 2002. Investment in machinery and equipment rose 5.0 per cent, a reversal of the previous two years of declines. Government spending on goods and services rose 3.0 per cent and investment by government rose 5.8 per cent. The main weakness in the economy was the trade sector, where exports of goods and services dropped 2.1 per cent, while imports rose 4.0 per cent.

Table 2-1 presents general economic indicators in Canada for 2003.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2003

	2003	*Percentage change* 2002 – 2003	*Annual percentage change* 1997 – 2002
GDP at Basic Prices			
(Millions of constant 1997 dollars)			
Total Economy	1,012,891	2.1	4.0
Goods	316,129	1.8	3.1
Forestry	5,980	3.5	0.8
Mining	35,573	4.4	0.1
Manufacturing	177,807	(0.2)	4.5
Construction	54,727	4.3	4.1
Services	696,762	2.2	4.4
Retail trade	56,665	2.2	5.6
Transportation and warehousing	458,802	(0.2)	2.6
Merchandise Trade			
(Millions of dollars)			
Exports	401,527	(3.1)	6.4
Imports	341,317	(4.2)	5.1
Income (Dollars)			
Personal Disposable Income per capita	22,694	1.9	4.0
Canadian Dollar			
(US cents per unit)	71.4	12.1	(2.5)
Employment (Thousands)	15,746	2.2	2.3
Population (Thousands)	31,630	0.9	1.0
Prices			
Total Economy (1997 = 100)	111.2	3.4	1.5
Transportation	141.4	5.2	2.1

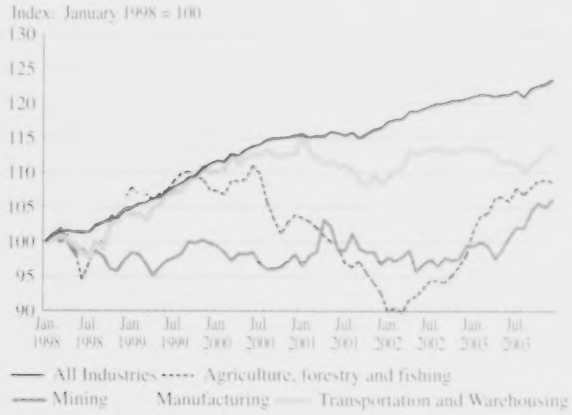
Source: Statistics Canada Cat. No. 13-001, 13-001, 15-001/62-001; Bank of Canada

GDP at basic prices by industry grew by 2.1 per cent in real terms in 2003. Output in the goods-producing industries grew 1.8 per cent, while output in the service industries grew 2.2 per cent. The main weakness on the goods side was manufacturing, which saw its output fall 0.2 per cent; this decrease reflected the adverse impact that the rise of the Canadian dollar had on trade. The construction sector was strong, as its output grew 4.3 per cent. The mining industry was also strong, reflecting good mineral prices and the development of diamond mines.

The agriculture sector jumped 22.1 per cent as it recovered from three years of declines. In spite of the softwood lumber dispute and the forest fires in British Columbia, the forestry industry experienced modest growth thanks to increased lumber exports and prices in the latter part of the year. On the service industry side, retail trade industry grew 2.2 per cent as consumer purchases continued. The SARS outbreak affected the demand for tourism services. Transportation and warehousing output fell slightly, by 0.2 per cent, reflecting the drop in manufacturing activity.

Figure 2-1 charts the changes in real GDP since 1998.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 1998 – 2003

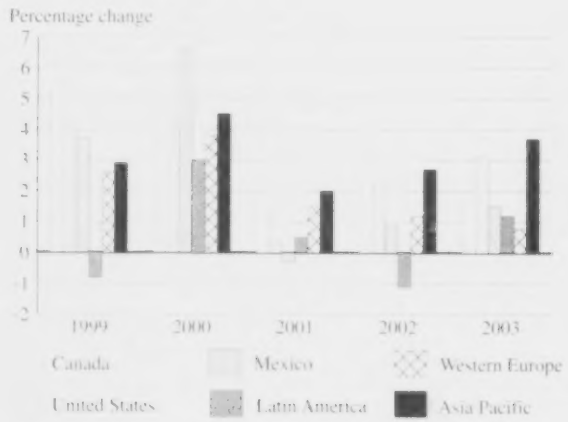


Source: Statistics Canada Cat. No. 15-001

The global economy has started to recover from the slowdown of recent years. In 2003, for the second year in a row, the world economy increased its rate of economic growth, registering a 2.4 per cent real increase. This was up from 2.0 per cent in 2002 and 1.4 per cent in 2000. The United States started to show signs of recovery, as it responded to monetary and fiscal stimuli. U.S. real GDP grew 3.1 per cent, up from 2.2 per cent in 2002. As in Canada, American consumers continued to spend and businesses increased their investment, while government spending was strong and exports also increased. Mexico's economy grew 1.5 per cent in 2003, up from the 0.9 per cent increase the previous year, and is linked to U.S. economic recovery. Economic growth in Latin America moved into positive territory: although Brazil was in recession, other countries such as Argentina had strong growth. Western Europe experienced growth of less than one per cent in 2003, as it felt the effects of the appreciating Euro on its exports. The two largest economies, Germany and France, experienced no real growth, while the United Kingdom grew only 2.0 per cent. The Asia-Pacific region grew 3.7 per cent, the highest growth rate of regions despite the negative impact of SARS. Japan, the second largest economy in the world, had real growth of 2.5 per cent after two years of almost zero growth. The Chinese economy grew 7.7 per cent in 2003.

Figure 2-2 compares the economies and other regions of the world from 1999 to 2003.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 1999 – 2003



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-001, U.S. Bureau of Economic Analysis.

In 2003, merchandise exports fell by 3.1 per cent, while imports fell by 4.2 per cent. This resulted in an increase in the trade surplus of $2.3 billion. Exports to the United States and Japan fell 4.6 and 3.8 per cent, respectively, but exports to the European Union rose 6.2 per cent. Imports from these three major trading partners fell.

The value of the Canadian dollar against the U.S. dollar rose steeply during most of 2003, from its low of US$.635 on the first trading day to a high of US$.773 at the end of December. The average value of the Canadian dollar against the U.S. dollar rose 12.1 per cent from its 2002 value. This appreciation of the Canadian dollar was due to a general fall in the value of the U.S. dollar.

General prices in the total economy as measured by the GDP deflator rose 3.4 per cent in 2003, compared with a 0.9 per cent increase in 2002. The average all-items Consumer Price Index (CPI) rose 2.8 per cent, compared with 2.2 per cent the year before. Consumers paid on average 7.9 per cent more for energy in 2003 than in 2002. Transportation prices rose 5.2 per cent, as vehicle insurance premiums rose 8.4 per cent during the year.

While disposable income per capita rose 1.9 per cent in 2003, it rose only 0.2 per cent in real terms. These increases compare with 2002 increases of 3.5 per cent in nominal terms and 1.6 per cent in real terms.

In 2003, the average number of persons employed rose to 15,746,000, a 2.2 per cent annual increase for the second year in a row. The mid-year population of Canada rose to 31.6 million, a 0.9 per cent increase, but a drop from the 1.1 per cent increase of the previous two years.

Provincial Economic Performance

In 2003, all provinces other than Saskatchewan and Alberta had lower growth rates than in 2002. The SARS outbreak and the strong dollar dampened economic activity right across the country. As in 2002, Newfoundland and Labrador had the highest GDP growth rate among the provinces, due to oil production and significant construction. Tourism suffered in Prince Edward Island but construction activity was strong. In Nova Scotia, the primary sector declined due to a weak fishery and low natural gas production; housing construction was strong but manufacturing was weak. In New Brunswick, manufacturing expanded due to gasoline shipments, and non-residential construction investment rose sharply as it benefitted from energy development and highway improvements. Both Ontario and Quebec were hard hit by the appreciation of the Canadian dollar, which affected export demand for manufacturing output. In both provinces, there was a housing construction boom. Double-digit growth in agriculture provided strength to the economies in both Manitoba and Saskatchewan. Alberta continued to attract people with jobs, resulting in a strong demand for retail and wholesale services. The Canadian beef industry, 70 per cent of which is in Alberta, was severely affected by the discovery of a case of mad cow disease. Weak economic performance in British Columbia resulted from the effect of the appreciating dollar as well as the impact of the Canada–U.S. softwood lumber dispute and the large forest fires on the forestry sector. Asian tourism traffic was reduced by SARS. Economic growth in the territories was buoyed by the development of diamond mining.

Table 2-2 shows provincial economic growth in 2002/03.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2002/03

(GDP at basic prices in 1997 dollars)

	Percentage Change 2002/03	*Percentage Change 1997/02*
Newfoundland and Labrador	5.9	6.1
Prince Edward Island	3.3	3.6
Nova Scotia	2.5	4.2
New Brunswick	2.6	3.8
Quebec	1.7	4.2
Ontario	1.6	4.7
Manitoba	2.1	3.0
Saskatchewan	5.4	0.9
Alberta	3.3	3.6
British Columbia	1.4	2.5
Territories	15.3	5.4

1. Forecast.

Source: Statistics Canada, Conference Board of Canada

INTERNATIONAL TRADE[1] AND TRADE FLOWS

By the end of 2003, Canada's trade surplus with the rest of the world had fallen to its lowest level since 1999, as both exports and imports of merchandise decreased.

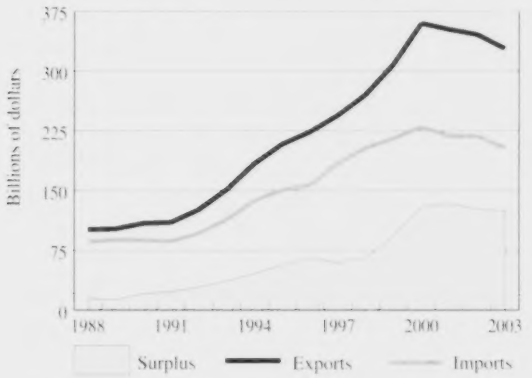
Trade with the United States

In 2003, the United States was once again Canada's most important trading partner by far. It captured almost 75 per cent of the value of Canada's total trade with the world. In 1988, this figure was 69 per cent. More than 86 per cent of Canada's total exports were to the United States. In 1988, this figure was 73 per cent. By contrast, Canada's imports from the United States oscillated between 64 and 68 per cent of total imports during the 1988 – 1998 period before reaching a low of 61 per cent in 2003. As a result, Canada's annual trade surplus with the United States has enjoyed an annual average growth of 15 per cent since 1988.

Figure 2-3 tracks the value of trade with the United States from 1988 to 2003.

1 Customs-based trade statistics are being used in the present report as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

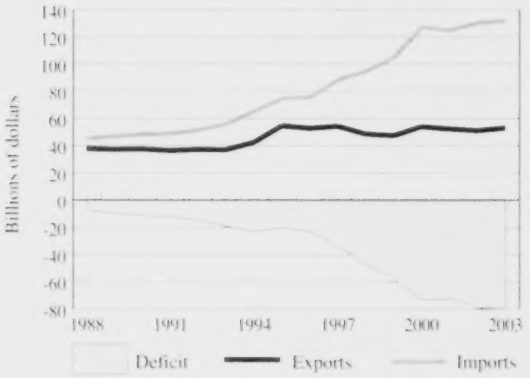
FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1988 – 2003



Note: Customs-based trade data. Preliminary data for 2003.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1988 – 2003



Note: Customs-based trade data. Preliminary data for 2003.

Source: Transport Canada, adapted from Statistics Canada, International Trade Database.

After peaking at $589 billion in 2000, Canada's trade with the United States totalled $531 billion in 2003. In terms of value, trucks carried 63 per cent of this trade, followed by rail (17 per cent), pipeline (10 per cent), air (six per cent) and marine (three per cent). Trucking was the dominant mode for both exports (53 per cent) and imports (80 per cent). By volume, pipelines ranked first, at 33 per cent (mainly in exports), followed by trucks (28 per cent), marine (20 per cent) and rail (19 per cent).

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,[2] which totalled $169 billion. This included $94 billion from and to Michigan alone. Four of the top six Canada–U.S. trade flows involved Ontario. Almost 78 per cent of the Canada–U.S. trade carried by trucks (value) was concentrated at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

Trade with Other Countries

In 2003, Canada's trade with other countries totalled $185 billion, driven by imports valued at $132 billion. This trade has registered deficits since 1988, as imports from other countries generally exceeded Canada's exports to these countries. As Figure 2-4 shows, trade deficits have grown at an annual average rate of 17 per cent since 1988.

In terms of value as of volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with overseas countries. In 2003, six trade flows accounted for almost 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and West Europe ($15 billion in exports, $40 billion in imports) and between western provinces and the Asian countries ($13 billion in exports, $18 billion in imports). The other two-way flows were import-oriented, moving to eastern provinces from the Asian countries ($34 billion) and Latin American countries ($17 billion), mainly Mexico.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

2 The U.S. Central Region includes states bordering the Great Lakes area (i.e. Michigan, Ohio, Indiana, Illinois, Wisconsin) as well as Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

TOURISM

In 2002, tourism expenditures in Canada totalled $51.8 billion, up 0.3 per cent from 2001, as spending by Canadians rose 1.8 per cent while spending by foreigners fell 2.6 per cent. Tourism expenditures on transportation were $19.9 billion, up 0.8 per cent despite a 1.7 per cent drop in expenditures on air travel. In the first nine months of 2003, total tourism expenditures were $38.3 billion, down 0.9 per cent from the same period in 2002. This decrease reflects the impact of the SARS outbreak.

Domestic travel[3] increased 3.2 per cent in 2002 over 2001, as 187.8 million trips were taken in Canada. Same-day travel by automobile, which accounted for 47.9 per cent of total domestic travel, fell 1.9 per cent, while overnight travel by automobile, which accounted for another 44.8 per cent, increased 10.4 per cent. Travel by air decreased, both same-day and overnight. Same-day intraprovincial travel fell, while overnight intraprovincial as well as both same-day and overnight interprovincial travel increased.

As Table 2-3 shows, international travel, both to and from Canada, fell 7.1 per cent in 2003, similar to the 6.9 per cent decrease of 2002. Trips by Canadians to the United States were almost unchanged, as same-day trips by automobile were flat and overnight automobile trips fell 2.6 per cent. Trips by Canadians to countries other than the United States rose 8.4 per cent. Trips by non-residents to Canada fell 13.3 per cent, as trips by residents of both the U.S. and other countries fell by similar percentages. For more details on tourist travel, see tables A2-10 to A2-20 in the Addendum.

TABLE 2-3: INTERNATIONAL TRAVEL, 2003

	2003	*Percentage change from 2002*
Trips by Canadians	39,224,830	0.0
To United States	34,151,233	(1.2)
Automobile	28,358,326	(0.7)
Same-day	20,863,577	0.0
Overnight	7,494,749	(2.6)
To all other countries	5,073,597	8.4
Trips by non-residents	38,902,631	(13.3)
By U.S. residents	35,509,444	(13.1)
Automobile	28,749,248	(14.0)
Same-day	19,629,552	(14.0)
Overnight	9,119,696	(14.0)
Trips by all other non-residents	3,393,187	(15.6)
Total international trips	78,127,461	(7.1)

Source: Statistics Canada cat. No. 66-001

EMPLOYMENT

There were an estimated 830,000 people employed in the transportation sector in 2003. This figure had to be estimated because the information on employment for some modes of transportation was not available. Employment in the air transport services increased to 79,600 in 2003. This was the first increase since 2000, when it totalled 86,000. Estimates for rail services predicted a continued decline in 2003, with employment falling to 37,300 from 39,500 in 2001. Following increased expenditures by government, employment in highway construction and maintenance rose in the past two years to reach an estimated 76,300 in 2003.

For detailed information on employment and salaries in the transportation sector, see tables A2-21 to A2-45 in the Addendum.

ENERGY CONSUMPTION

After the slight decline experienced in 2001, total domestic energy consumption rebounded in 2002, increasing by 3.4 per cent. The strongest sectors were construction (+13 per cent) and mining (+6.5 per cent). The only industries to witness declines in energy consumption were forestry (-6.2 per cent) and agriculture (-5.7 per cent). Energy use by the transportation sector, which still accounts for 34 per cent of total consumption, increased by 1.7 per cent after two consecutive years of decline.

The pipeline and aviation industries both experienced growth of 5.2 per cent for the year, while road energy use increased by 2.2 per cent. At the other end of the spectrum, the rail and marine industries saw their energy use decline by 9.3 and 10.2 per cent, respectively. For detailed information on energy usage in the transportation sector, see tables A2-46 to A2-53 in the Addendum.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

After a period of robust annual productivity growth in the first half of the 1990s, productivity increases in selected transport industries (rail, air and trucking) slowed during the second half of the decade to 1.6 per cent per year. Productivity growth in 2002 was marginal.

3 Domestic travel refers to trips at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

Prices[4] charged by these industries followed productivity trends, falling in real terms in the first half of the 1990s. From 1996 to 2002, however, the prices of transport services increased annually by 1.5 per cent, a 0.2 percentage point more than in the economy. In 2002, transport prices rose by 2.7 per cent.

Due to lower transport prices and a strong trade sector in the first half of the 1990s, transport activity almost doubled the growth of the economy in that period. From 1996 to 2002, transport output was outpaced by the rest of the economy. For more information on the productivity and price performance of the transportation sector, see tables A2-54 to A2-62 in the Addendum.

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

Value-Added Output of Commercial Transportation

Value-added estimates[5] of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

In 2003, commercial transportation industries in Canada accounted for $40.1 billion in 1997 dollars, or four per cent of the value-added GDP; this percentage was unchanged from 2002. The most important industry is trucking, which accounted for $12.3 billion, or 1.2 per cent of the total output. The air and rail transportation industries accounted for $3.7 billion (0.4 per cent) and $5.6 billion (0.6 per cent), respectively.

Table 2-4 compares the contribution of the different modes of transportation to Canada's GDP in 2003.

TABLE 2-4: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,[1] 2003

	Millions of constant 1997 dollars[1]	*Per cent of GDP*
Industries		
Air	3,722	0.4
Rail	5,630	0.6
Truck	12,261	1.2
Urban transit systems	3,095	0.3
Interurban and rural bus	209	0.0
Miscellaneous ground passenger transportation	1,853	0.2
Other transportation[2]	12,108	1.2
Transportation industries	40,137	4.0

1 Gross Domestic Product at basic prices.
2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

Transportation-Related Demand

In 2003, the total of all transportation expenditures for the final demand of goods accounted for 13.0 per cent of expenditures in Canada's economy. Personal expenditures on transportation were the largest part of transportation-related demand, accounting for 8.5 per cent of GDP. These expenditures grew by 1.9 per cent over 2002 levels. This growth was well below the 5.1 per cent average growth rate of the previous five years and reflects a six per cent decrease in the purchases of motor vehicles. Transportation equipment purchases, mostly motor vehicles, made up 4.0 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.5 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-63 in the Addendum.

Investment in transportation made up 2.8 per cent of the GDP in 2003. Business investment in transportation was the largest part of this, accounting for 2.3 per cent of GDP. In 2003, overall investment by business in transportation fell by 2.5 per cent, as business investment in transportation equipment decreased 4.6 per cent. Government investment was dominated by expenditures on roads, which made up 85 per cent of government investment spending on transportation and accounted for 0.5 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Transportation exports and imports were dominated by automotive trade. In 2003, exports of automotive equipment, including parts, accounted for 7.2 per cent of the GDP, while imports accounted for 6.3 per cent. Automotive exports fell 9.4 per cent in 2003, while imports fell 5.0 per cent.

4 Prices do not include fees or taxes added to fares or tariffs and also exclude the prices of personal expenditures on cars.

5 A value-added measure of output is referred to as net output. It is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

Transportation-related domestic demand accounted for 12.8 per cent of final domestic demand in 2002. This percentage is lower than for transportation-related final demand, reflecting the importance of automotive products to Canada's external trade.

Table 2-5 breaks down transportation demand as a proportion of GDP.

TABLE 2-5: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2003

	Millions of dollars 2003	*Per cent of GDP 2003*	*Per cent Annual Growth 2002 – 2003*	*Per cent Annual Growth 1997 – 2002*
Personal Expenditures on Transportation	**103,006**	**8.5**	**1.9**	**5.1**
New and used transportation equipment	48,013	4.0	(1.6)	5.7
Repair and maintenance expenditures	14,148	1.2	7.4	5.7
Other motor vehicle related services	6,961	0.6	3.8	3.6
Purchased commercial transportation	11,982	1.0	(0.1)	2.1
Investment in Transportation	**34,431**	**2.8**	**(1.7)**	**N/A**
Business investment in transportation	27,801	2.3	(2.5)	N/A
Transportation infrastructure (roads and railways)	2,146	0.2	(0.2)	8.8
Transportation equipment	22,592	1.9	(4.6)	5.9
Inventories	3,063	0.3	14.6	N/A
Government investment in transportation	6,630	0.5	1.4	2.2
Transportation infrastructure (roads)	5,667	0.5	3.1	0.1
Transportation equipment	963	0.1	(7.9)	19.9
Government Spending on Transportation[1]	**12,980**	**1.1**	**4.5**	**2.1**
Road maintenance	8,580	0.7	6.7	5.7
Urban transit subsidies	2,617	0.2	9.3	(0.9)
Other spending	1,783	0.1	(10.1)	(6.3)
Exports	**97,959**	**8.1**	**(9.2)**	**6.7**
Automotive products	87,941	7.2	(9.4)	6.9
Commercial transportation	10,018	0.8	(7.5)	5.2
Imports	**90,843**	**7.5**	**(5.0)**	**5.8**
Automotive products	76,357	6.3	(6.3)	6.0
Total Transport-Related Final Demand	**157,533**	**13.0**	**(2.1)**	**N/A**
Gross Domestic Product at Market Prices	**1,214,601**	**100.0**	**5.2**	**5.5**
Transportation-related domestic demand	147,675		0.9	N/A
Final Domestic Demand	**1,157,613**		**5.0**	**5.2**

Note: N/A = Not available.

1 2002 figures, growth rates over previous year are growth rates over 2001.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

Importance of Commercial Transportation to Provincial/ Territorial Economies

Commercial Transportation

Table 2-6 shows the importance of commercial transportation to provincial and territorial GDP. In 2002, commercial transportation was most important to Manitoba, where it accounted for 6.0 per cent of GDP; in Prince Edward Island, it accounted for only 2.2 per cent of GDP. Most of the commercial transportation activity took place in Ontario and Quebec, which together accounted for almost 58 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia combined accounted for 28 per cent.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP BY PROVINCE AND TERRITORY, 2002

	Millions of constant 1997 dollars	*Per cent of Total Canadian Commercial Transportation*	*Per cent of Total Provincial/ Territorial GDP*
Newfoundland and Labrador[1]	420.3	1.0	3.3
Prince Edward Island[1]	67.6	0.2	2.2
Nova Scotia[1,2]	974.3	2.4	4.3
New Brunswick[1,2]	954.9	2.4	5.2
Quebec	8,895.1	21.9	4.1
Ontario	14,698.1	36.2	3.5
Manitoba[1]	1,919.9	4.7	6.0
Saskatchewan	1,034.7	2.6	3.7
Alberta	5,034.6	12.4	4.1
British Columbia	6,354.3	15.7	5.4
Territories[1]	193.6	0.5	4.1

Note: GDP at basic prices.

1 Includes warehousing.

2 Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

Provincial and Territorial Personal Transportation Spending

In 2002, Canadians spent $101.1 billion on personal transportation. Of this, Ontario residents spent 40 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent and Alberta residents 11 per cent.

On a per capita basis, Yukon residents spent the most on transportation, an average of $3,877 in 2002, while Nunavut residents spent the least, only $1,035. In the provinces of Ontario and Alberta residents spent more than the national average of $3,222.

On average, 15.4 per cent of total personal expenditures by Canadians in 2002 had to do with transportation. Personal transportation spending in New Brunswick accounted for 16.3 per cent of total personal spending, the highest proportion of any province or territory.

In 2002, personal expenditures on transportation represented 9.2 per cent of final domestic demand in Canada. It made up over 9.0 per cent in New Brunswick, Quebec and Ontario but only 6.9 per cent in the Yukon, 3.8 per cent in the Northwest Territories and 2.0 per cent in Nunavut.

Table 2-7 shows personal expenditures on transportation by province and territory in 2002.

TABLE 2-7: PERSONAL EXPENDITURES ON TRANSPORTATION IN THE PROVINCES AND TERRITORIES, 2002

	Millions of Dollars	*Per capita Dollars*	*Per cent of Total Provincial/ Territorial Personal Expenditures*	*Per cent of Total Canadian Personal Transportation Expenditures*	*Per cent of Provincial/ Territorial Final Domestic Demand*
Newfoundland and Labrador	1,390	2,677	15.2	1.4	8.0
Prince Edward Island	372	2,725	14.9	0.4	8.5
Nova Scotia	2,661	2,850	14.7	2.6	8.3
New Brunswick	2,234	2,977	16.3	2.2	9.6
Quebec	23,031	3,130	16.1	22.8	9.7
Ontario	40,480	3,346	15.4	40.1	9.4
Manitoba	3,091	2,675	13.6	3.1	8.3
Saskatchewan	2,716	2,729	13.9	2.7	8.0
Alberta	11,408	3,663	15.8	11.3	8.3
British Columbia	12,749	3,098	14.2	12.6	8.9
Yukon	117	3,877	16.0	0.12	6.9
Northwest Territories	136	3,292	13.4	0.13	3.8
Nunavut	30	1,035	7.4	0.03	2.0
Canada	**101,058**	**3,222**	**15.4**	**100.0**	**9.2**

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION 3

In fiscal year 2002/03, all levels of government in Canada increased their transportation expenditures by a combined total of $1.3 billion.

This chapter reviews transportation revenues and expenditures by level of government. It looks at federal expenses related to transportation facilities and services according to two categories: activities related to operations and those related to safety, security and policy. It also highlights federal and provincial revenues from transportation users, breaks down expenditures by level of government, and looks at consolidated federal expenditures by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

For several years, government expenditures on transportation evolved within a $17 billion to $19 billion range. Table 3-1 shows that transportation expenditures by all levels of government soared in 2002/03 to $19.5 billion, an increase of $1.2 billion or 6.2 per cent from the previous year. All levels of government contributed to the increase. While federal transport expenses in 2003/04 are expected to increase marginally, non-tax revenues from transport users should decline by 4.5 per cent. Combined provincial/territorial and local expenditures increased by $1.0 billion, or 6.2 per cent, in 2002/03. Over the last four years, transportation expenditures by provincial governments have declined by $756 million. Local governments more than made up for this reduction by increasing their spending by $1.4 billion since 1999/2000.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION

(Millions of dollars)

	1999/2000	*2000/01*	*2001/02*	*2002/03*	*2003/04*[F]
Transport Canada expenses (Gross)[1]	1,252	1,233	1,529	1,352	1,412
Other federal expenses (Gross)	740	777	783	1,165	1,253
Provincial/Territorial[2]	8,861	7,476	7,671	8,105	N/A
Local[3]	7,466	8,477	8,254	8,868	N/A
Total gross transport expenditures	18,319	17,961	18,283	19,491	2,724
Gross expenditures per capita	599	586	580	619	0
Transport Canada revenues	386	352	371	423	358
Other federal revenues[4]	46	45	44	470	424
Specific tax revenues from transport users[5]	13,335	13,214	13,309	13,979	N/A

Note: N/A= Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Excludes transfers of $22 million to Crown corporations not involved in transport in the last two fiscal years and expenses by CATSA included in other federal expenses.
2 Net of federal transfers as reported by the provinces.
3 Calendar year basis; net of federal and provincial transfers. Revisions of more than $1 billion in 2001/02.
4 Revenues from Coast Guard services, small port users and the airport security charges.
5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.
F Planned and/or actual expenditures.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial departments of transportation; Statistics Canada, Public Institutions Division, Unpublished data

Fees and tax revenues collected by all governments from transport users reached $14.9 billion in 2002/03, up 7.7 per cent over the previous year.

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada operates roads and bridges, airports, harbour/ports and marine navigational and rescue services (Coast Guard). It also provides modal safety, security and policy services. Transport Canada performs several multimodal activities, ranging from security and emergency preparedness services to

the regulation and monitoring of the transport of dangerous goods. Table 3-2 shows that total direct federal transport expenses are forecast to reach $1.9 billion in 2003/04, 6.1 per cent more than the previous year. While these expenses declined throughout much of the 1990s, they have risen by 38 per cent since 1999/2000.

These activities can be divided into two broad categories: activities related to operations; and safety, security and policy activities. Expenses related to operations declined in 2003/04 by 1.1 per cent to $927 million. Decreases in federal expenditures on roads and bridges are related to the winding down of a major capital program on the Jacques Cartier and Champlain bridges in Montreal. Expenditures on safety, security and policy are expected to reach $809 million in 2003/04, up 18 per cent from the previous year. Major increases in recent years are related to commitments to security in the air sector.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 1999/2000 – 2003/04

(Millions of dollars)

	1999/2000	*2000/01*	*2001/02*	*2002/03*	*2003/04*[F]
Operations	**907**	**935**	**945**	**938**	**927**
Airports	123	92	75	56	67
Aircraft services	51	70	59	57	63
Coast Guard	480	496	475	498	521
Ports and harbours[1]	99	107	117	120	122
Roads and bridges[2]	141	159	208	195	145
Research and development	13	11	10	13	12
Safety, Security and Policy	**342**	**354**	**446**	**686**	**809**
Canadian Air Transport Security Authority[3]	-	-	-	260	400
Air Safety and Policy[4]	142	153	161	167	186
Marine Safety and Policy	48	49	56	59	60
Road and Rail Safety and Policy	39	40	46	53	49
Multimodal Policy and Safety[5]	114	112	183	148	160
Departmental Administration	**96**	**111**	**124**	**131**	**124**
Total	**1,346**	**1,400**	**1,515**	**1,754**	**1,860**

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.
2 Includes contributions by Transport Canada to the Champlain and Jacques Cartier bridges, and expenses of the National Capital Commission, Public Works and Government Services, Parks Canada, and Indian and Northern Affairs.
3 Cash basis.
4 Includes expenses of the Civil Aviation Tribunal.
5 Includes expenses for the regulation and inspection of the transport of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis. Large increases in 2001/02 related to the purchase of explosives detection equipment.
F Planned and/or actual.

Source: Transport Canada

Federal Subsidies to Transportation

In 2003/04, total federal direct subsidies, grants and contributions are expected to grow to $805 million, 5.5 per cent or $42 million more than in 2002/03. The major sources of change are highway transfers, which are $21 million higher, and port transfers, which rose by $48 million following the payment of a loan guarantee to Ridley Terminals. Subsidies to the rail mode increased by $6 million. Subsidies to the air mode, on the other hand, fell by $13 million, as higher airport subsidies were not sufficient to offset lower contributions to the Cabin Security Enhancement Program as it was being completed. Table 3-3 presents more details on these subsidies.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 1999/2000 – 2003/04

(Millions of dollars)

	1999/2000	*2000/01*	*2001/02*	*2002/03*	*2003/04*[F]
Air Mode					
Airport (Operation & Capital)	38.7	46.8	50.6	35.3	39.7
Airport/Airline Assistance[1]	-	-	123.9	25.4	7.0
Other	1.6	1.8	2.9	2.7	3.3
Total Air	40.3	48.5	177.4	63.4	50.0
Marine Mode					
Marine Atlantic	114.8	38.6	36.8	46.4	41.6
Transfers to ports[2]	22.0	45.4	21.6	22.1	69.7
Other ferry and coastal services	31.8	30.8	31.7	32.2	32.0
Other[3]	1.8	35.0	24.9	8.5	7.9
Total Marine	170.4	149.8	114.9	109.2	151.2
Rail Mode					
VIA Rail	170.3	231.6	310.2	255.7	264.2
Hopper cars	20.0	18.2	16.4	16.0	12.9
Grade crossings	7.4	7.5	7.5	7.5	7.5
Other	8.3	8.4	8.3	8.6	8.9
Total Rail	206.0	265.7	342.5	287.8	293.5
Highway Modes					
Transition programs[4]	57.5	15.3	23.7	37.2	32.2
Highway agreements[5]	107.2	62.8	69.0	101.4	122.4
Infrastructure program[6]	-	-	7.4	34.8	57.5
Fixed Link in Prince Edward Island	46.1	47.2	48.6	49.2	50.6
Other[7]	18.6	20.1	11.1	13.2	14.7
Total Highway Modes	229.4	145.4	159.7	235.9	277.5
Transit Systems[6,7]	**-**	**-**	**2.4**	**66.3**	**31.9**
Grand Total[8]	**646.3**	**609.8**	**747.8**	**763.3**	**805.4**

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca). Transport-related expenditures by regional development agencies have been added retroactively to 1996/97.

1 Includes air carrier assistance of $99 million in 2001/02 and a cabin security enhancement program of $28 million 2002/03 and $6 million in 2003/04.
2 Includes contributions to the Port Divestiture Fund, a payment of $36 million to the Government of Quebec for the transfer of ferry wharves in 2000/01 and $64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.
3 Includes a payment of $214 million to the Hamilton Harbour Commission for the settlement of a civil litigation.
4 Offset federal programs to the elimination of the Western Grain Transportation Act Program.
5 Includes $33 million in 2002/03 and $74 million in 2003/04 under the Strategic Highway Infrastructure Program.
6 Includes in 2002/03 and 2003/04 the estimated road and transit portion of the Toronto Waterfront Revitalization Project.
7 Spending included previously under Highway Modes.
8 Includes small amounts not classified elsewhere.
F Planned and/or actual.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURES BY PROVINCE[1]

In 2002/03, provincial, territorial and local governments spent $17 billion on transportation; this was $1.0 billion, or 6.6 per cent, more than in 2001/02. Local expenditures increased by $0.6 billion (6.9 per cent). The provinces/territories spent $8.1 billion, 5.7 per cent more than in 2001/02 but still below the peak levels of $8.9 billion reached in 1999/2000.

Since 1999/2000, provincial/territorial and local governments have spent, on average, 0.6 per cent per year more on transportation. Quebec, the Northwest Territories and Saskatchewan had the largest relative increases, while Alberta, British Columbia, New Brunswick and Newfoundland and Labrador reported decreasing expenditures.

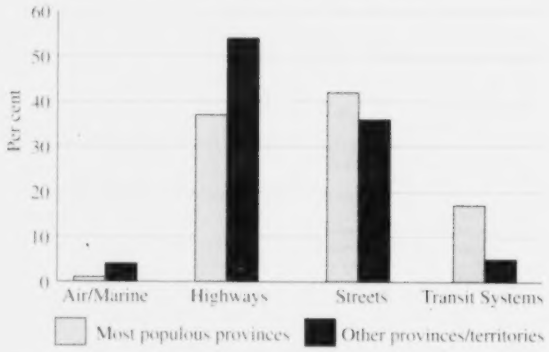
Federal transfers were equivalent to 1.2 per cent of transport spending by local and territorial governments in 2002/03. The Yukon was the most reliant province/territory on federal transfers, with some 31 per cent of its transport spending dependent on federal transfers. New Brunswick had a 12 per cent dependency on federal transfers.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces, accounting for 39 and 41 per cent, respectively, of all net spending by provincial/territorial and local governments. Other modes are also significant for some provinces/territories. Remoteness makes spending on air transportation more significant for the Northwest Territories, where it accounted for 18 per cent of transport spending in 2002/03.

Expenditures on transit are significant in British Columbia, Ontario, Alberta and Quebec. British Columbia reported the largest transit expenditure share, with 19.2 per cent in 2002/03. From 1999/2000 to 2002/03, Quebec showed the largest increase in spending ($142 million). Expenditures declined in Ontario over the period, despite additional expenses of approximately $100 million in 2002/03.

Figure 3-1 illustrates the differences in the distribution of modal expenditures between the four most populated provinces and the rest of the country. The most striking difference is in the share of transit expenditures, which reached 17 per cent in British Columbia, Quebec, Ontario and Quebec. In other provinces/territories, the share is less than five per cent. Urban pressure is also illustrated by the share of expenditures on streets in more populous provinces, 42 per cent compared with 34 per cent in the rest of the country. Conversely, the less populated areas of the country spend relatively more on highways than the populous provinces, and spending on air and marine transportation are also more significant, especially in the Northwest Territories.

FIGURE 3-1: MODAL SHARE OF LOCAL AND TRANSPORT EXPENDITURES, 2000/01 – 2002/03



Source: Transport Canada

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives are credited to the federal departments' budget, while revenues from other sources are credited to the federal government's Consolidated Revenue Fund. Both are part of this analysis. Excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees, constitute revenues collected from transport users. Table 3-4 highlights government revenues from transport users from 1999/2000 to 2003/04.

1 For more detailed data, see the tables for Chapter 3 in the Addendum on Transport Canada's Web site (www.tc.gc.ca).

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 1999/2000 – 2003/04

(Millions of dollars)

	1999/2000	2000/01	2001/02	2002/03	2003/04[F]
Airport revenues	271	250	264	319	227
Aircraft services	27	28	34	26	25
Airport security fee[1]	-	-	-	421	400
Marine revenues[2]	79	72	70	68	70
Leases of hopper cars[3]	13	14	14	15	12
Other fees and recoveries[4]	41	35	26	33	31
Total	431	397	408	883	766
Federal fuel taxes	4,786	4,807	4,758	5,014	N/A
Public and non-transport use[5]	440	445	437	424	
Road[6]	4,138	4,142	4,109	4,396	N/A
Other modes[7]	208	219	211	193	N/A
Provincial/territorial fuel taxes	6,968	6,914	6,958	7,263	N/A
Sales tax equivalent[7]	668	799	777	793	
Road[6]	5,993	5,805	5,894	6,184	N/A
Other modes[6]	307	310	287	286	N/A
Provincial/territorial licences/fees[8]	2,689	2,738	2,807	2,919	N/A
Total tax revenues from transport users	13,335	13,214	13,309	13,979	N/A
Total tax and fee revenues from transport users	13,767	13,611	13,717	14,862	N/A

Note: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).
Since 1996/97, the Air transport tax, formerly netted against Transport Canada budget has been credited to the Consolidated Revenue Fund.

1. Accrual basis.
2. Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.
3. Credited to the Consolidated Revenue Fund.
4. Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.
5. Estimated fuel taxes from public administrations and mobile users of the public transport system.
6. Estimates by Transport Canada (revised).
7. Estimates based on the sales tax that would have applied to provincial fuel prices.
8. The amounts shown exclude licences and registration fees dedicated to the Société de l'Assurance Automobile du Québec.

F Planned and/or actual.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation.

In 2002/03, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected $14.9 billion from transport users through fuel taxes and permit and licence fees. This was 7.7 per cent more than in 2001/02. By far, road fuel taxes make up the largest component of government tax revenues from transportation, averaging $10.1 billion, or 73 per cent of all government revenues from transport users, from 1999/2000 to 2002/03. In recent years, the growth of road fuel demand and road fuel tax revenues was moderated by higher fuel prices. However, in 2002/03, road fuel tax revenues increased by 5.4 per cent as a result of higher fuel taxes in most of Atlantic Canada and British Columbia and lower fuel prices, which stimulated demand. Other fuel tax revenues decreased in 2002/03 by $19 million, or 3.9 per cent, due to a combination of reduced activity and better fuel efficiency in other modes.

In 2003/04, federal government transportation revenues other than fuel taxes are expected to total $766 million, down 13.2 per cent from 2002/03 levels. This expected drop is a result of the lowering of air security fees and airport rents. Marine fees are expected to bring in around $70 million. Other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets, are also reported in Table 3-4.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

This section summarizes consolidated federal expenses, and expenditures by the provincial/territorial and local governments, netted of transfers received from other levels of government from 1999/2000 to 2002/03. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

Total government spending on roads has risen by 4.1 per cent per year since 1999/2000, reaching $14 billion in 2002/03. Road expenditures now account for 72 per cent of overall spending on transportation.

Public funding of transit systems, after several consecutive years of decline, increased by $225 million, or 9.4 per cent, to reach $2.6 billion in 2002/03. In the same year, public spending on transit systems accounted for 13 per cent of all government expenditures on transportation. In the mid-1990s, the transit share of government spending on transportation averaged 16 per cent.

In 2002/03, the air mode accounted for 3.5 per cent ($670 million) of gross government spending on transportation. Air-related public spending, which had been declining until 1999/2000, has since recovered by 59 per cent. Without the new initiatives related to safety and security, public spending in the air mode would have continued to fall by a further 18 per cent to $362 million.

Public spending related to the marine mode, after excluding the transfer of the BC Ferry debt to the provincial government, continues to hover around $1 billion. The share of the marine mode in public spending on transportation reached five per cent, a level that has not changed significantly since the mid-1990s.

Public spending on rail has grown by 14.4 per cent per year since 1999/2000, accounting for 1.7 per cent of gross government spending on transportation in 2002/03. Rail passenger subsidies account for 75 to 80 per cent of total spending on rail.

In 2002/03, the federal and provincial governments spent $2 billion on the air, marine and rail modes combined, while generating $1.4 billion in fees and tax revenues from transport users. Revenues increased by $452 million, following the introduction of the Air Security Fee in 2002/03.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. About four per cent of government transportation spending falls under this category.

TABLE 3-5: TRANSPORT EXPENDITURES/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 1999/2000 – 2002/03

(Millions of dollars)

	1999/2000	*2000/01*	*2001/02*	*2002/03*	*2003/04F*
Federal Operating & Maintenance, Capital and Subsidies[1]					
Air	356	363	473	603	718
Marine	797	801	763	786	853
Rail	222	282	362	310	313
Road	394	328	394	461	451
Transit	-	-	2	66	32
Other/Overhead	224	236	318	292	298
Subtotal	1,992	2,010	2,312	2,518	2,666
Provincial/Territorial/Local[2]					
Air	66	78	77	70	N/A
Marine	1,246	165	169	193	N/A
Rail	5	21	27	30	N/A
Road	12,044	12,876	12,809	13,580	N/A
Transit	2,618	2,421	2,392	2,553	N/A
Other/Overhead	344	390	452	548	N/A
Subtotal	16,324	15,951	16,973	15,926	N/A
Total Expenses: All Government Levels					
Air	422	442	549	672	N/A
Marine	2,044	966	933	978	N/A
Rail	227	303	389	340	N/A
Road	12,438	13,205	13,204	14,041	N/A
Transit	2,618	2,425	2,394	2,610	N/A
Other/Overhead	568	626	770	840	N/A
Subtotal	18,316	17,961	18,283	19,491	N/A
Government Revenues from Transport Users					
Road users	12,820	12,686	12,811	13,499	N/A
Rail, air and marine	933	918	902	1,352	N/A
Multimodal	14	8	4	10	N/A
Total	13,767	13,611	13,717	14,862	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

1. Taken from tables 3-2 and 3-3.
2. Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments. For this reason, transportation transfers may be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.
3. Taken from Table 3-4.
4. Forecast at January 31, 2004, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments.

TRANSPORTATION SAFETY AND SECURITY 4

An increase in the number of accidents was noted in all modes in 2003, while the number of fatalities fell in marine and rail transportation. Public confidence in the security of Canada's transportation system continues to rise as further security enhancements were implemented in 2003.

A safe and secure transportation system ensures that all Canadians are able to travel and it also contributes to Canada's economic prosperity and ability to trade effectively. This is why preserving the safety and security of Canada's transportation system remains Transport Canada's primary focus.

Canada already has one of the safest and most secure transportation systems in the world and continues to work diligently to further improve the system. In upholding the safety and security of the transportation system, Transport Canada carries out its objectives through three principal activities: rulemaking, oversight and outreach.

The safety and security of the transportation system is a shared responsibility. Transport Canada collaborates with other federal departments whose programs and services may be affected by transportation activities. Transport Canada also works with provincial, territorial and municipal governments particularly concerning the maintenance of the highway system and enforcement of road safety, as well as the co-delivery of the Transportation of Dangerous Goods (TDG) program. Furthermore, Transport Canada works closely with transportation sector industries, agencies and associations, all of which have a vested interest in the transportation infrastructure, regulatory regime and safety and security. Additionally, Transport Canada collaborates with its international partners — such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) — to harmonize safety and security standards and to share best practices in safety and security systems.

In 2003, Transport Canada — working with government and industry stakeholders — increased its efforts to be more vigilant and to implement more stringent transportation safety and security standards. Canada continues to maintain a good transportation safety record. Although the number of accidents was up for all modes of transportation in 2003 (latest data for road is 2002), the number of transportation-related fatalities for marine and rail remained below those of 2002. Moreover, the number of transportation-related fatalities has remained below the previous five-year average in aviation, rail, marine and the transportation of dangerous goods, as well as slightly below for road (2002 data). The safety record observed in the different transportation modes in 2003 has not affected the long-term trends in accidents reported in previous years.

The positive outcomes in transportation have been influenced by security enhancement initiatives introduced in 2003, which have contributed to improved public confidence in the safety and security of the transportation system.

This chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2003. After a review by mode of the 2003 safety records, transportation security is discussed and the various enhancements undertaken in 2003 are reviewed.

TRANSPORTATION SAFETY

This section presents the most recent safety-related statistics for all modes of transportation, as well as for the transportation of dangerous goods. Reports of accidents and incidents made to the Transportation Safety Board (TSB) are one of the principal sources of safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property, while incidents are those that have the potential to result in an accident. The specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (Details for aviation, marine and rail are available under TSB Regulations at www.tsb.gc.ca/en/common/acts.asp.) For road, collisions reported to the police are collected by the provinces/territories under the agreement of the Canadian Council of Road Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics. The collection and processing of high volumes of data for over 600,000 crash cases annually can take over a year to compile and release the statistics at the jurisdictional and national levels. Transport Canada is the primary source for the dangerous goods statistics. There has been a recent change in reporting criteria affecting these statistics (For details, refer to http://tcinfo/tdg/clear/part8.htm). As safety-related occurrence statistics, they provide indicators of the transportation system's safety performance and help focus efforts on those initiatives and activities that have high safety benefits.

Compared with 2002, the number of accidents in 2003 increased for: aviation (eight per cent), marine (15 per cent) and rail transportation (4.5 per cent). With the exception of marine, however, the number of accidents in 2003 remained below the previous five-year average. The latest available statistics for road casualty collisions (2002) show an increase of 3.4 per cent from 2001. Reportable accidents involving the transportation of dangerous goods decreased from 439 in 2002 to 358 in 2003. This decrease is largely attributed to changes in accident-reporting regulations. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record in 2003, including the transportation of dangerous goods.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE, 2002 AND 2003[p]

	Aviation[1]	*Marine*[2]	*Rail*[3]	*Road*[4]	*TDG*[5]
Accidents					
2003	296	483	1,028	159,498	358
2002	274	421	984	154,268	439
Five-year average (1998 – 2002)	323.2	457.4	1,062.2	154,075	452
Fatalities					
2003	58	19	77	2,936	0
2002	50	26	96	2,781	1
Five-year average (1998 – 2002)	65.2	24.0	98.0	2,941	1.4
Accident Rate[6]					
2003	7.7	17.9[7]	11.5	50.5	N/A
2002	7.0	18.0	11.0	49.7	N/A
Five-year average (1998 – 2002)	7.7	17.6	11.9	50.5[8]	N/A

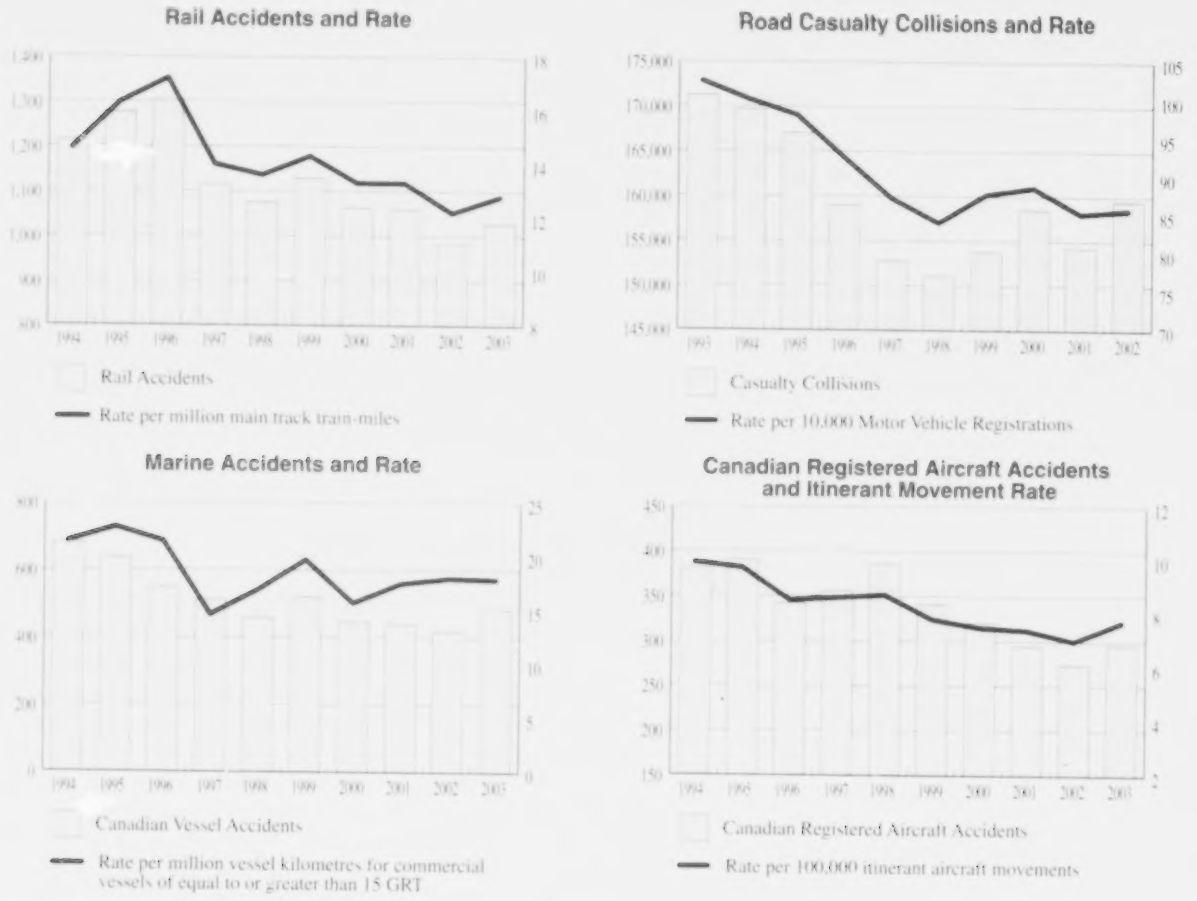
Note: Pr-Preliminary data for 2003 as estimated.
N/A = Not available.
1. Canadian-registered aircraft, other than ultralights. Accident rates per 100,000 itinerant aircraft movements at top 100 airports.
2. Accidents involving Canadian-registered vessels. Accident rates per million vessel kilometres for commercial vessels of equal to or greater than 15 GRT.
3. Railways under federal jurisdiction. Accident rates per million main track train-miles and includes both main track and yard switching miles.
4. Road statistics relate to 2002 (most recent road safety statistics) and to the 1997 – 2001 five-year averages. Rate per 100 million vehicle-kilometres. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.
5. TDG = Transportation of Dangerous Goods. Fatalities caused by the dangerous goods.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

Another indicator of the safety performance of the transportation system is the number of fatalities. In 2003, there were no fatalities caused by the dangerous goods in a transport accident. In addition, there were fewer fatalities in the marine and rail modes. There was a slight increase in aviation fatalities but the total remained below the five-year average. From 2001 to 2002 (the most recent statistics), road fatalities increased by 5.6 per cent to 2,936.

The above year-over-year analysis and modal comparisons can be incomplete if the long-term trends and specifics of each mode, including the level of activity and therefore exposure to risk, are not taken into account. That said, accident rates in 2003 changed less notably. They were closer to the same levels as in 2002 or the previous five-year average. The 2003 rates for air were up slightly over 2002, but remained at the same levels compared with the 1998 – 2002 averages. No notable changes in accident rates were indicated for marine (Canadian commercial vessels of ≥ 15 GRT), rail or road when compared with the previous year or the previous five-year averages. This indicates that the increases in the levels of activity measures (representing to various degrees the increased exposure to risk) have contributed toward the increases in the number of accidents. Figure 4-1 shows the ten-year trend for the four modes, a trend that despite observed fluctuations from one year to another is generally downward in terms of both number of accidents

FIGURE 4-1: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION


Rail Accidents and Rate
Rail Accidents
Rate per million main track train-miles
Road Casualty Collisions and Rate
Casualty Collisions
Rate per 10,000 Motor Vehicle Registrations
Marine Accidents and Rate
Canadian Vessel Accidents
Rate per million vessel kilometres for commercial vessels of equal to or greater than 15 GRT
Canadian Registered Aircraft Accidents and Itinerant Movement Rate
Canadian Registered Aircraft Accidents
Rate per 100,000 itinerant aircraft movements

Source: Transportation Safety Board, Transport Canada and Statistics Canada

and accident rates per activity level. It is important to note that these rates are only a basis for interpreting the occurrence statistics in each mode and not for comparing across modes, given that the activity measure is particular to each mode and may have its own set of data limitations. (For more information, see notes to Table A4-1 in the Addendum.)

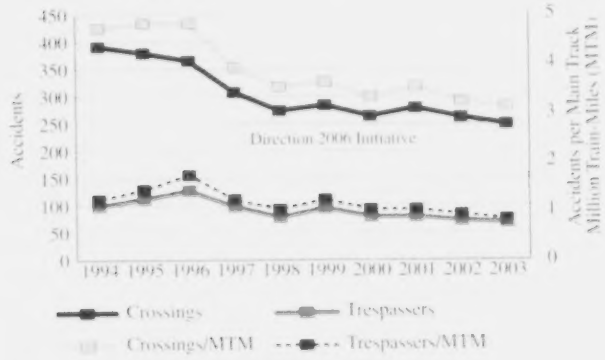
RAIL

In 2003, the number of reported rail accidents increased by 4.5 per cent, from 984 in 2002 to 1,028 in 2003. Although this increase interrupted the downward trend of previous years, the actual number of rail accidents in 2003 remained 3.2 per cent below the previous five-year average (1998 – 2002) of 1,062.2 accidents. An accident rate of 11.5 per million train-miles was observed in 2003, up from 11.0 in 2002 but still below the previous five-year average of 11.9. This increase is attributed mainly to a greater number of main track (from 116 in 2002 to 148 in 2003) and non-main track (from 347 to 387) train derailment accidents. Of reported accidents, 48 per cent occurred on non-main tracks and involved either a derailment or collision. These accidents are generally minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. The reported rail accidents presented in this section, and in tables A4-2 to A4-4 in the Addendum, cover the rail networks under federal jurisdiction only.

The number of rail accident fatalities decreased by 20 per cent in 2003 and by 21 per cent compared with the 1998 – 2002 average. In 2003, there were 72 fatal accidents (resulting in 77 fatalities). A total of 63 serious accidents resulted in 77 serious injuries, a slight increase over the 71 injuries reported in 2002 but still below the five-year average of 79.4. The majority of these fatalities and injuries resulted from crossing or trespasser accidents. For a provincial breakdown of accidents, fatalities and serious injuries involving railways under federal jurisdiction, see tables A4-3 and A4-4 in the Addendum. In recent years, a federal/provincial data sharing initiative was undertaken to capture occurrences on rail networks under provincial jurisdiction, (accounting for 17 per cent of the total national rail network).

Direction 2006 Initiative — Launched in 1996, Direction 2006 is a strategic partnership initiative aimed at reducing crossing and trespasser accidents by 50 per cent by 2006. (For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.) Crossing and trespasser accidents continued to account for the greatest number of fatal and serious accidents in 2003: 95 per cent of the fatalities and 92 per cent of the serious injuries reported. Crossing accidents remained below the five-year average and decreased five per cent, from 261 in 2002 to 248 in 2003. Fatalities related to crossing accidents decreased notably, from 46 to 27, while serious injuries increased slightly, from 42 to 50. Trespasser accidents decreased from 73 in 2002 to 68 in 2003. Trespasser fatalities decreased from 49 to 46, while serious injuries remained the same at 21. Figure 4-2 presents recent trends in crossing and trespasser accidents.

FIGURE 4-2: CROSSING AND TRESPASSER ACCIDENTS, 1994 – 2003



Source: Transport Canada, based on Transportation Safety Board data.

Accidents at public automated crossings increased slightly in 2003 (from 128 to 135), while accidents decreased at public passive crossings (from 96 in 2002 to 72 in 2003 and over the five-year average of 90.0). See Addendum Table A4-4 for more details. Transport Canada, together with its partners and stakeholders, is finalizing new regulations that will establish clear direction and consistency in the construction and maintenance of crossings and access control along rail lines. In collaboration with railways and road authorities, Railway Safety Inspectors conduct risk assessments of highway–railway grade crossings, while Transport Canada administers a crossing funding program for those crossings at greatest risk. In addition, to reduce the risk of accidents at night, Transport Canada continued to fund initiatives to apply reflective material on the front and back of railway crossing signs and supporting posts at 11,000 passive grade crossings across Canada.

Passenger safety — In 2003, the number of passenger trains involved in accidents decreased notably, from 67 in 2002 to 53, to remain below the five-year average of 68.6. In 2002, VIA Rail began train service with passenger cars equipped with crash energy management technology that was introduced in consultation with Transport Canada.

Work/Rest Rules — In-depth investigations have demonstrated that fatigue is a major factor in transportation accidents. In consultation with railway unions, the Railway Association of Canada and its members developed work/rest rules for rail operating employees, which came into effect in April 2003. During 2003, these rules were implemented across the rail industry. Application of these rules continues to be monitored by Transport Canada, and problems identified are being evaluated. Ongoing discussions are being held with the industry to resolve outstanding issues and further improve crew alertness and safety.

Safety Management Systems — The implementation of safety management systems (SMS) continues to be the cornerstone of Transport Canada's work to instill a strong safety culture in the transportation industry. The Railway Safety Management System (RSMS) Regulations, which came into effect on March 31, 2001, require all federally regulated railway companies to implement and maintain an RSMS. In 2003, Transport Canada continued to establish its RSMS audit program by assessing company SMS documentation and evaluating the implementation and effectiveness of documented processes and procedures. To date, more than 40 railways have undergone an RSMS documentation audit and 12 railways have undergone verification audits. Transport Canada continued to focus on industry education and awareness of the RSMS regulations and its purpose, as well as the completion of the initial cycle of RSMS audits.

Transportation Appeal Tribunal of Canada — The Transportation Appeal Tribunal of Canada (TATC) became functional on June 30, 2003, providing a recourse mechanism with respect to certain administrative actions taken by the Minister of Transport under various pieces of federal transportation legislation. For federally regulated railways in Canada, this means that a request for a review hearing will be available where a Notice and Order is issued under the *Railway Safety Act*. In 2003, the Rail Safety Program made railways aware of the TATC and established related Transport Canada Rail review processes and procedures. For more information on these and other initiatives, visit www.tc.gc.ca/railway/en/menu.htm.

ROAD

Over the last two decades, Canada's road safety record has improved continuously. In 2002 (most recent statistics), however, there was a 3.4 per cent increase in casualty collisions from 2001. There was also a 5.6 per cent increase in road-related fatalities (from 2,781 in 2001 to 2,936 in 2002) and a three per cent increase in road-related injuries, translating into 6,647 additional injuries in 2002. Addendum Table A4-5 illustrates annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries. This annual increase may be attributable in part to changes in vehicular traffic, such as the increased number of vehicle registrations (up three per cent) and vehicle-kilometres travelled (up two per cent). The 2002 increases have resulted in a small increase (less than one per cent) in the casualty collision rate per 100 million vehicle-kilometres travelled over the 2001 rate (from 49.7 to 50.5). The longer-term downward trend in fatalities (679 fewer fatalities in 2002 than the 3,615 in 1993) and injuries (19,820 fewer injuries in 2002 than in 1993) has helped reduce the estimated annual social cost to Canadians of up to $25 billion. The long-term trends are confirmed by a rate based on the annual number of motor vehicle registrations (e.g. 1.6 fatalities per 10,000 motor vehicles in 2002 compared with 2.2 in 1993). Data by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 — Road Safety Vision 2010 (RSV 2010) was adopted in the fall of 2001. Its national target is a 30 per cent decrease by 2010 in the average number of road users killed or seriously injured over comparable 1996 – 2001 figures. For more information on Canada's road safety record, including international comparisons, and on RSV 2010 targets and the nine sub-target areas, visit www.tc.gc.ca/roadsafety/vision/2010/en/menu.htm.

Seat belts — One of the key RSV 2010 sub-targets is to increase the number of Canadians who wear seat belts. A national seat belt survey conducted each June since 1988 shows that the use rate for passenger car drivers has reached a plateau, hovering just above 90 per cent since 1995. The increased use of seat belts has contributed to saving thousands of lives over the years. Addendum Table A4-7 provides the motor vehicle occupant fatalities and seat belt wearing rates. In September 2002, Transport Canada conducted an observational survey of seat belt use in rural communities across Canada. The survey was undertaken because evidence indicated that the majority of motor vehicle fatalities in rural areas involve people who were not wearing seat belts. The survey showed that the seat belt wearing rate in rural areas was approximately five per cent lower than the national average. Much lower rates of seat belt use were indicated among front seat occupants of light trucks (77.5 per cent) than of passenger cars and passenger vans (both at 88.2 per cent), and the rate was lowest (81.5 per cent) among those aged 25 and under. In 2001, 66 per cent of the total fatalities by location (2,433) were on rural roads, while the remainder was on urban roads. For more information on the survey of seat belt use in rural communities across Canada and provincial/territorial breakdown jurisdiction, visit www.tc.gc.ca/roadsafety/tp2436/rs200302/menu.htm#Chart_1.

Drinking drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined steadily since the late 1980s, from 40 per cent to approximately 30 per cent in recent years. The same is true for the number of persons charged with impaired driving offences (70,539 in 2001 (most recent data) compared with 112,000 in 1991). It is not known whether the decrease in charges is a result of public education programs, stiffer penalties or reductions in police enforcement, or a combination of all these factors. Despite these declines, alcohol was still a contributing factor in approximately 1,103 road fatalities (2001 data). As Addendum Table A4-8 shows, 2001 saw an increase in the percentage of those fatalities with over 80 mg% in blood alcohol concentration.

Commercial Vehicles — Another RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e. heavy trucks and buses). Addendum tables A4-9A and A4-9B, show, from 1997 to 2001, that while commercial vehicles accounted for about eight per cent of all vehicles involved in all types of collisions, collisions involving commercial vehicles were the source of roughly 20 per cent of all road

fatalities. In 2001 (most recent data), 548 fatalities resulted from collisions involving commercial vehicles. Fatigue is recognized as a major factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours of service rules under the National Safety Code, allowing trucking companies to better manage the fatigue factor in their operations. Revisions to the *Motor Vehicle Transport Act*, 1987 (MVTA), Bill S-3, which authorizes provinces to regulate extra-provincial motor carriers, received Royal Assent on June 14, 2001. The revised Act creates a national framework for motor carrier safety regulation focussed on the consensus-based National Safety Code Standard #14 - Safety Rating by authorizing the provincial governments to apply a national safety regulatory regime to extra-provincial motor carriers operating out of their jurisdiction. Once a sufficient level of national consistency in safety rating is achieved, the revisions to the Motor Carrier Safety Fitness Certificate Regulations will also come into force.

As Addendum Table A4-10 shows, motor vehicle drivers accounted for about half (53 per cent) of the 1998 – 2002 average total fatalities (2,916) by road user class, while passengers accounted for a quarter (25 per cent). Driver (1,546) and passenger (730) fatalities increased by seven and 12 per cent, respectively, in 2002 over 2001. Pedestrian fatalities also increased, by nine per cent, from 335 in 2001 to 370 in 2002, accounting for 13 per cent of the total number of road-related fatalities and the third largest share of the five-year average total. As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 1997 and 2001, automobiles accounted for approximately half, pickup trucks were second (accounting for about a third) and the larger trucks were third, while motorcycles were a distant fourth. The 2001 (163) and 2002 (172) motorcyclists fatalities, however, accounted for six per cent of total fatalities, despite accounting for less than two per cent of the total number of licensed drivers. For more statistics on road safety system performance, including the updates to 2002 Canadian Motor Vehicle Traffic Collision Statistics, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

MARINE

In the marine transportation sector, after a record low year, the number of marine accidents increased by 15 per cent in 2003, with 483 Canadian vessel accidents compared with 421 in 2002. The majority of these accidents were shipping accidents (431), five per cent more than the previous five-year average. Accidents aboard Canadian ships also increased (52) over the five-year average (46.6) and made up the remainder of accidents. Of the 468 total Canadian vessels involved in an accident, which includes those where more than one vessel was involved (e.g. striking or collision between vessels), fishing vessels represented the largest proportion, with 54 per cent, while commercial vessels followed with 35 per cent. The commercial accident rate, based on vessel-kilometres and commercial vessels ≥15 gross registered tonnage (GRT), remained about the same in 2003 (17.9) as in 2002 (18.0).

Despite the increase in Canadian marine accidents in 2003, there was a record equivalent low in the number of lives lost (19 compared with 24 for the previous five-year average). There were 72 persons injured in 2003, close to the 2002 total of 70 but somewhat higher than the five-year average of 68.4. For a second year, confirmed Canadian vessel losses remained low, 30 in 2003, which is below the previous five-year average of 40.8.

Regionally, the increase in shipping accidents in 2003 was largely recorded on the Atlantic coast. For more details on accidents reported to the Transportation Safety Board, and for a comprehensive regional breakdown, see Addendum tables A4-12 and A4-13.

Small Commercial Vessels — In 2003, the 69 small vessels (≤150 GRT) engaged in commercial operations, excluding fishing, represented 15 per cent of Canadian vessels involved in shipping accidents. Of these 69, 44 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Transport Canada continued to advance the regulatory and safety agenda for small commercial vessels in 2003 through the Marine Safety Small Vessel Monitoring and Inspection Program. This program is committed to improved inspection and monitoring of vessel compliance. These measures will help identify vessels of higher risk. Impending amendments to stability and construction standards and life-saving equipment in the Small Vessel Regulations will further enhance safety.

Small Fishing Vessels — As in previous years, the number of small vessels engaged in fishing activities accounted for the largest proportion of Canadian vessels involved in shipping accidents, 54 per cent in 2003. It should, however, be noted that accidents involving these vessels have greatly declined in the last decade, as shown in Addendum Table A4-15. The safety of these vessels continued to remain a priority within Transport Canada. The Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training. To further promote an enhanced safety culture within the fishing industry, Transport Canada also revised and distributed the Small Fishing Vessel Safety Manual to commercial vessel licence holders.

International — As a member of the International Maritime Organization, Canada is required to report casualties for large commercial vessels. In 2003, there were no "very serious" casualties (e.g. loss of life, total vessel loss, severe pollution) involving Canadian vessels. One "serious" casualty (defined as main engine failure or damage rendering the ship unable to proceed) was reported. There were 49 shipping accidents involving foreign-flag vessels in Canadian waters, below the 2002 total of 54, but there were more accidents aboard ship in 2003 (15) than in 2002 (10). Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. Under the MOUs, 1,276 foreign-flag vessels were inspected in 2003. Improved targetting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports. The percentage of ships with deficiencies decreased from 45 per cent in 2002 to 38 per cent in 2003. The number of detentions (58) was about the same as in 2002 but has decreased over the last five years.

Marine Transportation Safety Management Systems — Transport Canada's focus on safety within the marine transportation sector is the continued implementation of safety management systems. These systems have been in place since 1998, when they were implemented on a worldwide basis for tankers, bulk carriers and passenger ships in international trade. In 2002, these requirements were extended to almost all vessels trading internationally. In Canada, this is implemented through the Safety Management Regulations. To date, 21 companies and 62 Canadian vessels have obtained the required statutory certification; which is issued by authorized third-party organizations (also known as classification societies) on behalf of Transport Canada. Transport Canada directly monitors the performance of these third parties. In 2003, 10 monitoring visits were carried out and a sample of audit reports were reviewed. Some areas for improvement were identified and changes were initiated to bring communication directly to the regional level. Opportunities for increasing the scope of the Safety Management Regulations are now being investigated.

For occurrence information on recreational boating and related regulatory initiatives, visit www.redcross.ca and www.ccg-gcc.gc.ca.

AVIATION

Preliminary air accident figures reported to the Transportation Safety Board increased in 2003 by eight per cent. This increase interrupted a general downward trend, which up to 2002 represented the lowest annual number of accidents, including fatalities, involving Canadian-registered aircraft in the last 25 years. The 2003 increase is attributed primarily to an increase in private operator accidents (from 110 in 2002 to 137 in 2003). Although the number of accidents involving aircraft increased (from 274 in 2002 to 296 in 2003), it is at the same level as in 2001 (295) and remains eight per cent below the 1998 – 2002 average of 323.2. The number of fatal accidents remained about the same in 2003 as in 2002 (31 and 30, respectively), with eight more fatalities in 2003 (58 and 50). Comparing the 2003 year with the previous five-year average, shows a decrease in fatal accidents (33.2 in 1998 – 2002) and a decrease in fatalities (65.2). The number of serious injuries in 2003 (44) was about the same as in 2002 (42) and the five-year average (44.2). This section presents the Canadian-registered aircraft accidents only. For more details, please see Addendum Table A4-16.

As Addendum Table A4-17 shows, the 2003 aeroplane accident rates by hours flown, itinerant movements and the number of Canadian-registered aeroplanes all confirm about the same or slightly increasing rates compared with 2002 and the previous five-year average, and where the rates diminish in comparative consistency by the category of aircraft operations. Addendum tables A4-18A and A4-18B provide a breakdown by province of aviation accidents, fatal accidents and fatalities.

The year 2003 was a safe one for airlines and commuter aircraft, as no fatal accidents were reported despite a nominal increase in the number of accidents for airlines (from six in 2002 to seven in 2003) and an increase in commuter aircraft accidents (from six to nine). The 2003 accident rates for airliners and commuter aircraft (0.6 and 1.8 per 100,000 itinerant movements, respectively) confirm a consistent trend over that of the previous years. The sector of Air Taxi aircraft operations showed a slight increase in accidents in 2003 (41) compared with 2002 (35), with a marked decrease over the five-year average (60.2).

The Private/Other aircraft operations sector continued to account for the major proportion of all airplane accidents, 70 per cent in 2003 and 61 per cent of the 1998 – 2002 five-year average. Reported accidents within this sector of air transport activity increased from 139 in 2002 to 169 in 2003, an increase also over the previous five-year average of 161.2. The number of fatal accidents remained about the same in 2003 (17) as in previous years (15 in 2002 and 16.2 for the 1998 – 2002 average). Flight training is included as part of this sector of air operations. On average, it accounted for 19 per cent of all airplane accidents between 1998 and 2002 and 18 per cent of all airplane accidents during 2003.

In 2003, there were 834 reported incidents in total. Incidents refer to those occurrences that did not result in an accident but for which a potential for an accident was identified. The Declared Emergencies category (requiring priority handling by air traffic control or standby by emergency response services) continued to represent the largest share (35 per cent) of this total, followed by Risk of Collision / Loss of Separation (19 per cent). The 2003 engine failure incidences (132) were the lowest in more than a decade and have markedly decreased (20 per cent) over the five-year average of 164.

Flight 2005 — The Civil Aviation Safety Framework for Canada aims at two key objectives: a continued improvement in the high level of aviation safety in Canada; and a high level of public confidence in the country's civil aviation program. The implementation of initiatives emanating from Flight 2005 is ongoing, with emphases on a system approach to safety and consultations with the aviation industry. For information on Flight 2005 Safety Indicators and Targets, visit www.tc.gc.ca/civilaviation/Flight2005/Status/indicators.htm.

Safety Management Systems — The implementation of safety management systems (SMS) in aviation organizations has been a key instrument in improving the safety performance within the air transportation industry. Such systems establish more industry accountability and instill a consistent and positive safety culture throughout the aviation industry. The systems' goals have been realized by regulating safety performance, while leaving the means of achieving that performance more in the hands of industry management.

Aeronautics Act — A project to amend the *Aeronautics Act* was initiated to address fatigue management, liability insurance, aviation companies' management systems, analysis and reporting of safety data, and new compliance and enforcement tools. The amendment process has been progressing, as early consultation with key industry stakeholders has been completed, and continued input is being sought throughout the drafting process.

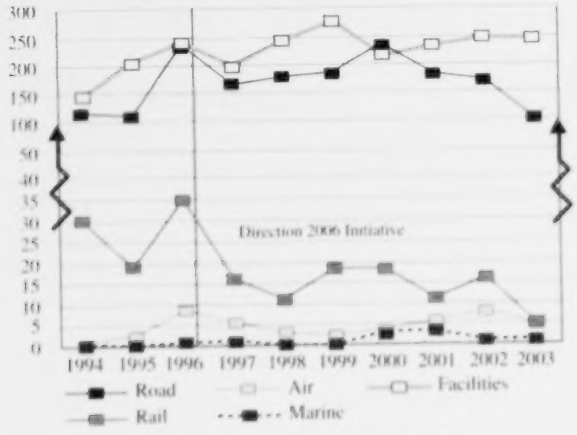
For more information on Flight 2005, SMS and the *Aeronautics Act*, visit www.tc.gc.ca/CivilAviation/menu.htm.

Transportation of Dangerous Goods

In 2003, there were 358 reportable accidents involving the transportation of dangerous goods, down from 439 in 2002. Few accidents involving dangerous goods are actually caused by the goods themselves. Of the 358 reportable accidents, dangerous goods caused only two. Figure 4-3 shows that in recent years most reportable accidents involving dangerous goods did not occur during transport but rather during the loading or unloading phase at transportation facilities. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2003, five fatalities and 39 injuries resulted from accidents involving dangerous goods. Of these, seven injuries resulted from the dangerous goods themselves.

The decrease in reportable accidents in 2003 is largely attributable to changes to the accident-reporting requirements in the revised version of the Transportation of Dangerous Goods (TDG) Regulations, which came into force on August 15, 2002. New requirements are based solely on the dangerous goods quantity released at the accident.

FIGURE 4-3: TDG REPORTABLE ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 1994 – 2003



Source: Transport Canada, Dangerous Goods Accident Information System

Freight and freight movement can be measured in more than one way: the number of shipments, the weight of the shipment (tonne), the weight and distance of the shipment movement (tonne-kilometre), and the distance over which the shipment travelled (vehicle-kilometre). The measurement used depends on the nature of the need for a measure of the activity. There are approximately 30 million shipments of dangerous goods in Canada every year that are subject to the TDG regulations. Almost all (99.99 per cent) arrive safely at their destinations. As Figure 4-3 shows, among the four modes of transport, most reportable accidents (90 per cent) occur on road. It must be kept in mind, however, that 93 per cent of dangerous goods are shipped using road transportation. When tonnage is used as the unit of measurement of dangerous goods transported in Canada, only 51 per cent of the volume of dangerous goods transported is done by road while 38 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data, see the winter 2002 – 2003 edition of The Dangerous Goods newsletter at www.tc.gc.ca/tdg/newsletter/winter2002-2003.htm. For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-19A to A4-19C.

Explosion during transport of explosives — A multi-year investigation into a traffic accident that involved a tractor-trailer transporting 18 tonnes of explosives and that resulted in an explosion was completed. It concluded that the most probable cause was the violent rupture of truck components (e.g. tires, some engine components, spring brake chambers, etc.) whose fragments, with sufficient energy, struck heat-sensitized explosives. Consequently, amendments to the way explosives are transported, handled or offered for transport were not considered.

Tank Car Thermal Protection Integrity — As a result of a Tank Car Thermal Protection Integrity project, it is now possible to use infrared camera technology to assess the integrity of the thermal protection systems found on rail tank cars. In 2003, inspectors were trained and based on preliminary assessment critera, have started using this new approach to assess compliance with the thermal protection standard.

Highway tanker truck stability tests — A test program at the National Research Council has been launched to determine the rollover threshold of highway tanker trucks. Approximately 25 different trucks have been tested on a tilt-table. The collected data will be analyzed to see whether they can be used to develop a rollover threshold standard for tanker trucks transporting dangerous goods.

The National TDG Program — This Program is delivered across Canada in partnership with provinces and territories under terms defined in Memoranda of Agreement between the federal Minister of Transport and provincial/territorial Ministers. In 2003, such an Agreement was concluded with the recently created Territory of Nunavut. During the year, Transport Canada held training sessions throughout the country on the TDG Regulations offered to federal, provincial and territorial inspectors. A review of the *TDG Act, 1992* started in the fall of 2003.

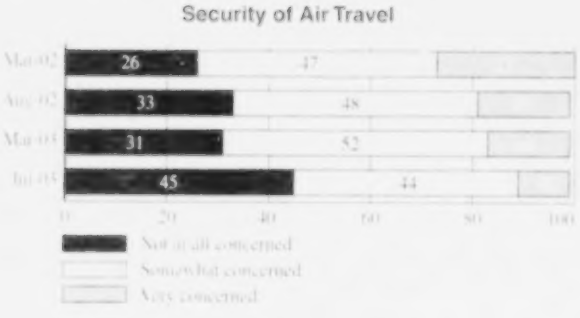
International harmonization — The harmonization of regulatory requirements across jurisdictions remains an important objective. Through participation in the North American Free Trade Agreement-related initiatives, Canada has proposed the establishment of harmonized North American Model Standards for highway and rail tank cars. Agreement has been reached to undertake such work for both the manufacturing and use of rail and truck tanks, with Canada leading the work on rail tank cars. Such work is important for the prevention of accidental releases of dangerous goods. In 2003, regulations requiring the use in Canada of United Nations (UN) performance packaging for all small containers (drums, boxes, bags or other similar containers) used to transport dangerous goods came into force. The UN performance requirements are based on UN recommendations and foster safety as well as international harmonization.

For more information on these initiatives, including the new Clear Language version of the TDG Regulations, visit www.tc.gc.ca/tdg/menu.htm.

TRANSPORTATION SECURITY

The security of the national transportation system continued to be strengthened in 2003 through various enhancements and initiatives. As a result, the confidence of Canadians in transportation security in all modes continued to increase. For example, Figure 4-4, which illustrates public opinion in the security of air travel since March 2002, demonstrates that public confidence in the security of air travel continues to be on an upswing.

FIGURE 4-4: TRACKING THE SAFETY OF MODES, 2003



ENHANCING TRANSPORTATION SECURITY — 2003 INITIATIVES

In addition to the already rigorous security standards in all modes of transportation and the transportation of dangerous goods, Transport Canada implemented new initiatives in 2003 in collaboration with other federal departments, industry stakeholders and union representatives. The following sections provide further information on these initiatives by mode of transportation. See Table 4-2 for a list of key accomplishments.

TABLE 4-2: KEY 2003 TRANSPORT CANADA SECURITY ACCOMPLISHMENTS

Implemented phase one of the Transport Canada Automated Fingerprint Identification System (TCAFIS).

Developed technical requirements for the airport restricted area pass system with the Canadian Air Transport Security Authority (CATSA) and industry stakeholders. These requirements incorporate biometrics and information management processes.

Developed tools for the implementation of the International Ship and Port Facility Security (ISPS) Code.

Completed the initial review of Port Facility Security Assessments.

Collaborated with the Canada Customs and Revenue Agency (CCRA), Canadian railways and the United States on a Declaration of Principles for southbound rail processing for security and contraband threats.

Developed contingency plans including increased screening of passengers, non-passengers and cargo to address threats to Canada's transportation system.

Aviation Security

In 2003, Transport Canada continued to strengthen Canada's aviation security, in collaboration with the Canadian Air Transport Security Authority (CATSA), by:

- updating the standards for screening of passengers and their baggage and training screeners;
- consulting with aviation stakeholders, including labour groups, air carriers, airport operators and local police forces, to develop regulatory requirements for screening non-passengers;
- developing the technical requirements for enhancing the restricted area pass system for employees at airports. These requirements incorporate biometrics and enhanced information management to support the issuance, verification, cancellation and tracking of the passes; and
- developing tools to measure and evaluate the performance of advanced explosives detection system equipment.

Other initiatives that contributed to enhancing security at Canadian airports and on aircraft included:

- drafting amendments to the Canadian Aviation Security Regulations (CASR) for the screening of non-passengers. The Program involves searching at random non-passengers, such as airline personnel (including flight crew), airport employees, refuelers, caterers, aircraft groomers, maintenance personnel and ground handlers, their possessions and vehicles, where applicable, when entering an airport restricted area or, under certain circumstances, within a restricted area.

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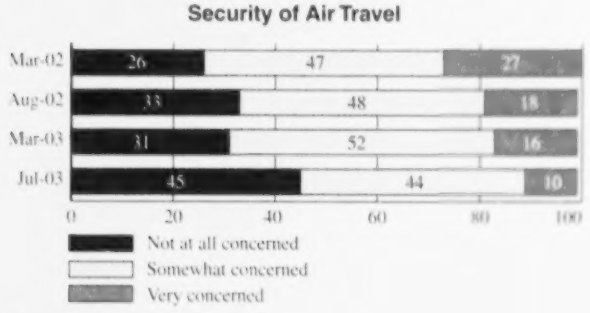
FIGURE 4-4: TRACKING THE SAFETY OF MODES, 2003

Overall how concerned are you about the security of air travel in Canada?



Source: EKOS Research Associates

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- completing an assessment of aviation security policing requirements at selected airports, which will be introduced in 2004.
- completing and implementing the first phase of the Transport Canada Automated Fingerprint Identification System (TCAFIS), which is aimed at enhancing the quality, effectiveness and efficiency of airport security by modernizing the manner in which security clearances are processed. The system is designed to expedite processing times for transportation security clearances for restricted areas at Canadian airports.
- drafting amendments to security regulations related to flight crew procedures and training as part of a commitment to the Senate Committee on National Security and Defence to implement new requirements.

On April 9, 2003, as part of the cabin security enhancement project, Transport Canada also promulgated the reinforced cockpit door regulations, in an effort to harmonize with the international community. With financial support provided through the Cabin Security Enhancement Contribution Program, all 705 Canadian airline operators met the new cockpit door requirements. The purpose of these regulations, in combination with new operator procedures for accessing flight deck areas, is to reduce intrusion into the flight deck by unwanted persons.

Transport Canada also continued to provide financial support to the International Civil Aviation Organization's (ICAO) Universal Security Audit Program. This program is designed to promote aviation security worldwide by evaluating and assisting its 188 Member States in correcting security deficiencies.

Marine Security

Enhancement of marine security is a fundamental component of Canada's overall security and trade relationship with the United States. During 2003, initiatives were implemented to sustain the long-term national marine security program.

Significant progress was made toward adopting and implementing the International Ship and Port Facility Security (ISPS) Code under the 1974 International Convention for the Safety of Life at Sea, which must be in place by July 1, 2004. Key initiatives to comply with the new marine security requirements include:

- development of guidelines for ship and port facility security assessments and plans;
- national stakeholder consultations toward the development of the regulatory framework; and
- development of an oversight, compliance and enforcement program.

The Marine Facility Restricted Area Access Control Program (MFRAACP) was also developed in 2003 to provide a regulatory framework for a national program requiring security background checks for persons needing access to restricted areas (or be escorted) in order to protect critical infrastructure of the marine transportation system.

Security in Other Modes

In the area of rail security, Transport Canada worked with the Canada Customs and Revenue Agency (CCRA), Canadian railways and the U.S. Customs Services (now Border Protection under the new Department of Homeland Security) on a Declaration of Principles for southbound rail processing for security and contraband threats. Transport Canada also met with the Railway Association of Canada and the Federal Railway Administration of the U.S. Department of Transportation to discuss the U.S. security clearance requirements for railway crews transporting explosives and dangerous goods into and within the United States. Further discussions are under way.

On border security, Canada and the United States signed the Smart Border Declaration in December 2001, a framework for the flow of people and goods and the securing of infrastructure, and for the exchange of enforcement information. To implement the declaration, a thirty-point Action Plan was developed. In 2003, Transport Canada continued to address several parts of this plan, under the area of Secure Infrastructure. These responsibilities include infrastructure improvements, intelligent transportation systems, critical infrastructure protection and aviation security.

Emergency Preparedness and National Critical Infrastructure Assurance Program (NCIAP)

In 2003, Transport Canada participated, along with other federal departments, provincial governments and the United States, in simulated exercises — such as TOPOFF II — designed to test Canada's and the United States' preparedness for terrorist attacks. Exercises such as these allow the federal government as well as Transport Canada to improve both domestic and cross-border preparedness for potential terrorist attacks by enhancing cooperation, communication and understanding.

Transport Canada's ability to assist during major events was demonstrated on a number of occasions such as the Ontario blackout, during a shuttle launch, hurricanes Isabel, Kate and Juan, geomagnetic and solar storms, and during the British Columbia and California forest fires. Transport Canada continued to enhance its capability to respond to incidents as a result of its experience during these events.

Transport Canada has been a key player in the development of a framework for the National Critical Infrastructure Assurance Program, which is under the leadership of Public Safety and Emergency Preparedness Canada (formerly the Office of Critical Infrastructure and Emergency Preparedness). The program's objective is to protect Canada's network of physical and computer-based infrastructures, which provide essential energy, transportation, communications as well as safety, financial, health and emergency response services. During the past year, Transport Canada consulted provinces/territories, other federal departments and other governments, such as the United States, to promote and foster collaborative efforts toward harmonization in the assurance of transportation critical infrastructure.

Transportation of Dangerous Goods

Transport Canada continued to develop the Chemical Biological Radiological and Nuclear (CBRN) Response Initiative that was launched in 2002. This initiative, related to the transportation of dangerous goods, will also be integrated into the National Counter-Terrorism Plan. Transport Canada continued to secure access to trained industrial emergency response teams capable of providing CBRN product-related assistance to first responders in the event of a terrorist incident.

TRANSPORTATION AND THE ENVIRONMENT

5

In the federal budget of 2003, $250 million was set aside for transportation measures under the Climate Change Plan for Canada.

Overview

Transportation is fundamental to Canada's economic prosperity and Canadians' quality of life. To maintain and improve our competitiveness, Canada must ensure that its transportation system is efficient and responsive to new challenges. To enhance Canadians' quality of life, we also need to ensure that the system is safe, secure and environmentally acceptable. In practical terms, this means that, more and more, Canadians will ask that the transportation system performs its vital role in ways that do not harm human health or the environment.

Sustainable development is a concept that promotes a balance of the economic, social and environmental dimensions of transportation. Making Canada's transportation system more sustainable requires a long-term commitment and coordinated efforts by all levels of government, industry and, most importantly, by individual Canadians. It is not a goal that can be reached overnight.

Creating a truly sustainable transportation system is challenging. In Canada, three levels of government share responsibility for transportation. In general, the federal government is responsible for national, interprovincial and international transportation; provincial governments are responsible for intraprovincial transportation; and, municipalities are responsible for urban transit and local planning decisions. Federal, provincial and territorial Ministers of transportation coordinate activities through the Council of Ministers Responsible for Transportation and Highway Safety.

Transport Canada's Role

Transport Canada's primary responsibility is to provide a safe and secure transportation system. It also has authority for certain environmental issues (e.g. *Canada Shipping Act*, *Arctic Waters Pollution Prevention Act*, *Transportation of Dangerous Goods Act*). Transport Canada works with other federal government departments in this area. For example, Transport Canada works with Natural Resources Canada in promoting improvements in road vehicle fuel efficiency, including the introduction of fuel efficiency technologies in new vehicles. Environment Canada is responsible for air emissions through off-road and on-road vehicle and engine emissions regulations.

The federal government strives to improve the environmental management of its operations by mitigating adverse impacts. By reducing its own environmental impacts, Transport Canada seeks to set a positive example for others in the transportation sector. Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and overseer for major components. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its land and facilities.

This chapter provides an overview of key environmental issues pertaining to the transportation sector in Canada. More specifically, it reviews the most recent trends in air emissions and recent developments respecting climate change and urban air pollution. In addition, it highlights initiatives in the areas of clean water and contaminated sites.

Environmental Trends in Transportation

Transportation has a wide range of impacts on the environment. The adverse effects are a function of the stresses associated with transportation, including resource use (materials and energy), undesirable residuals (emissions, spills and leaks) and land use. A range of transportation activities contributes to these stresses, including the construction of infrastructure; road system operations and maintenance; the production, operation, maintenance and disposal of vehicles; and the provision of energy. Consequently, transportation activities contribute in various degrees to a number of environmental problems, including climate change caused by human-induced greenhouse gases (GHGs) emissions, urban smog, decreased water quality and poor land use.

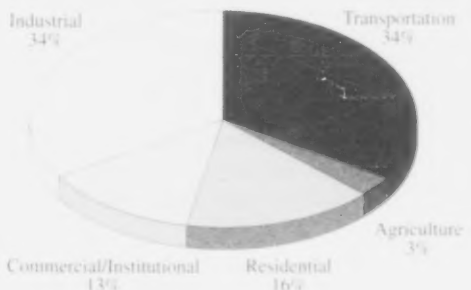
Climate Change and Greenhouse Gas Emissions

Climate change is an environmental concern on both a domestic and international level. It is caused by GHGs that trap heat reflected from the surface of the planet in the lower atmosphere. Carbon dioxide (CO_2) is the primary GHG and is responsible for about two thirds of climate change.

Emissions from transportation have been growing rapidly, as Canada's economy has expanded and trade has flourished both within Canada and with the United States. This upward trend is projected to continue.

In 2001, total Canadian GHG emissions from secondary energy sources[1] were 473 megatonnes (Mt). Figure 5-1 shows GHG emissions from secondary sources for different sectors of the economy.

FIGURE 5-1: GHG EMISSIONS FROM SECONDARY ENERGY USE IN CANADA, 2001

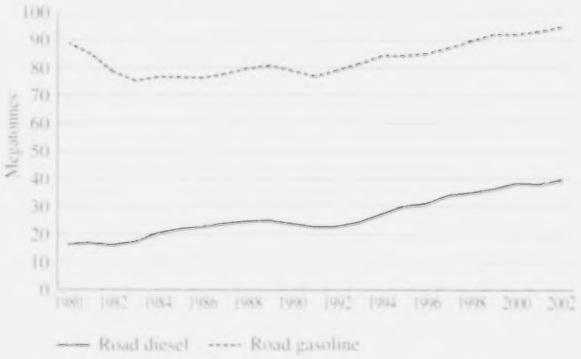


Source: Natural Resources Canada, Energy Efficiency Trends – Summary Tables (Canada OEE Website).

Transportation sources accounted for 34 per cent (163 megatonnes) of the total. Road transportation accounted for the majority of this, with 77 per cent of the total, while aviation accounted for nine per cent. Rail and marine transportation accounted for four and six per cent, respectively.

Figure 5-2 shows that GHG emissions arising from on-road gasoline use were relatively stable for most of the last two decades. It was not until 1998 that gasoline use rose to 1980 levels. Since then, gasoline use has continued to climb. Overall, growth in on-road gasoline use was about seven per cent between 1980 and 2002. Improvements in new car fuel efficiency are largely responsible for this relatively moderate increase. However, car ownership per licenced driver has increased steadily, and people are driving more often and longer distances. Sport utility vehicles (SUVs) and light trucks are increasingly popular.

FIGURE 5-2: ROAD GASOLINE AND DIESEL GHG EMISSIONS, 1980 – 2002



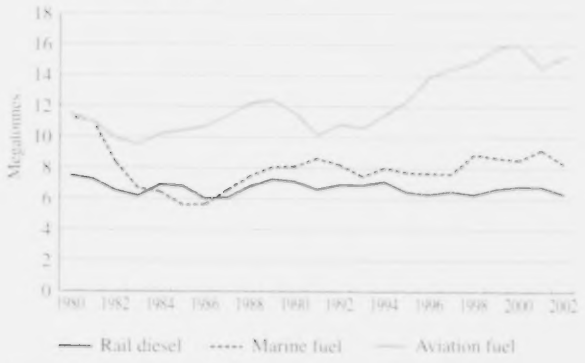
Source: Fuel sales from Statistics Canada, Quarterly Report on Energy Supply-Demand (Cat. 57-003), conversion factors to GHG emissions from Environment Canada, Canada's Greenhouse Gas Inventory 1990-2000, June 2002.

The same figure also shows that on-road diesel fuel use has grown considerably over the last two decades, increasing 140 per cent between 1980 and 2002. This reflects the changing nature of the freight industry due to liberalized trade, deregulation of the freight-carrying industries and the "just-in-time" revolution (the tendency of industry to minimize inventories to reduce costs).

1 Secondary energy is the energy used by the final consumer in the residential, commercial, agricultural, industrial and transportation sectors.

Figure 5-3 shows non-road GHG emissions. Aviation emissions fluctuated between 1980 and 2002 but overall have increased by 33 per cent. It should be noted that aircraft fuel efficiency increased during this period due to new aircraft technology, the use of larger aircraft and increased load factors. Marine GHG emissions declined by 27 per cent over the same period. However, since the mid-1980s, emissions have fluctuated over a relatively narrow band. Rail emissions declined between 1980 and 2002 by roughly 15 per cent. This is impressive, as it occurred at the same time that domestic tonne-kilometres grew. This could be due to several factors: the acquisition of large numbers of new high-performance locomotives during the late 1990s; the adoption of new operating practices; and the rationalization of Canadian National and Canadian Pacific's fleets.

FIGURE 5-3: RAIL, AVIATION, MARINE GHG EMISSIONS, 1980 – 2002



Source: Fuel sales from Statistics Canada, Quarterly Report on Energy Supply Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada, Canada's Greenhouse Gas Inventory 1990-2000, June 2002.

URBAN TRANSPORTATION AND AIR POLLUTANT EMISSIONS

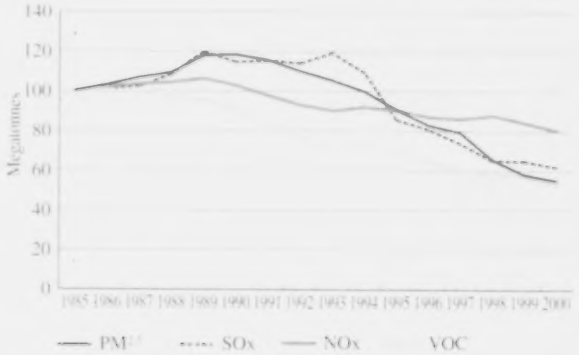
Eighty per cent of Canadians now live in urban areas, making Canada one of the most urbanized countries in the world. Urbanization, together with steadily increasing economic activity originating in urban centres, is putting pressure on the environment.

Vehicle emissions are a significant contributor to air pollution, specifically in Canada's most densely populated centres. Vehicle emissions of nitrogen oxides (NO_x) affect air quality and contribute to urban smog, a major health concern to Canadians. Health studies estimate that air pollution contributes to several thousand premature deaths in Canada each year, as well as to numerous health-related problems, including cardio-vascular ailments and respiratory distress.

Smog is composed of two main ingredients: ground-level ozone and fine airborne particles. Ground-level ozone is produced when NO_x and volatile organic compounds (VOC) react in sunlight and stagnant air. VOC are found in gasoline fumes and solvents. NO_x emissions are produced mostly by burning fossil fuels. NO_x, along with sulphur dioxide (SO_2), also contribute to acid rain. The second main ingredient in smog is fine particulate matter, which is produced during fossil fuel combustion in motor vehicles, power plants and large industries. Industrial processes and solvent use are also major sources of particulate matter.

Figure 5-4 shows the trend in these emissions since 1985. The transportation sector accounts for roughly 52 per cent of total NOx emissions, 21 per cent of total VOC emissions and six per cent of fine particulate emissions. Fortunately, over the last 15 years, all air pollutant emissions due to the transportation sector have decreased. This decline is largely due to regulations that were introduced to reduce the health impacts of smog and the impact of acid rain.

FIGURE 5-4: AIR POLLUTION EMISSIONS FROM THE TRANSPORTATION SECTOR, 1985 – 2000



Source: Fuel sales from Statistics Canada, Quarterly Report on Energy Supply Demand, Cat. 57-003; conversion factors to GHG emissions from Environment Canada, Canada's Greenhouse Gas Inventory 1990-2000, June 2002.

Congestion is a major contributor to GHG emissions and other smog-producing air pollutants. Congestion also has economic and social costs. In urban areas and at border points, it is a key obstacle to the efficient movement of international and interprovincial trade and has a significant impact on Canada's transportation infrastructure. Airports, rail yards, ports and intercity highways are usually located in cities and are directly affected by the efficiency of the urban transportation system. Congestion produces important economic costs, estimated to be in the billions of dollars, for the Canadian economy. These costs include loss of time and productivity, lost wages and extra fuel costs. Congestion is expected to increase significantly as the population continues to grow in urban areas.

Low-density settlement, with its reliance on roads, has been an increasing trend in the development of Canadian cities. Although there are benefits of a less crowded, open, green environment, this urban form can increase passenger vehicle use and emissions by increasing commuting travel distance.

Clean Water and Contaminated Sites

Transportation activities may decrease water quality and have a negative impact on land use. Mitigating transportation-related effects on water quality, improving environmental management and taking action to mitigate the environmental impact of transportation activities are key to protecting the integrity of aquatic and terrestrial ecosystems, avoiding human exposure to hazardous substances, and preserving human enjoyment of the environment. Much land contamination involves leakages from fuel storage tanks that occurred decades ago. Contamination has occurred at urban industrial areas, historical railway developments, old ports, airports, training facilities, military bases and reserves. About 60 per cent of Canada's contaminated sites involve petroleum hydrocarbon (PHC) contamination that, left unaddressed, may pose a threat to human health and the environment.

SUSTAINABLE DEVELOPMENT STRATEGY

In 2003, Transport Canada, like all other federal government departments, developed its third *Sustainable Development Strategy 2004–2006* (SDS). The objective of the SDS is to improve decision-making and to strengthen awareness of the importance of sustainable transportation. The Strategy will help to ensure that environmental considerations are taken into account along with economic and social factors in Transport Canada policies, programs and operations.

The third Strategy provides an opportunity for Transport Canada to demonstrate continued leadership in promoting sustainable transportation. It addresses key federal priorities such as climate change, clean air, clean water, contaminated sites and research and development. Many of the Strategy's commitments will address these priorities within an urban context.

Tabled in Parliament in February 2004, the Strategy defines seven strategic challenges and 32 specific commitments for action over the next three years.

The seven strategic challenges are as follows:

1. Encourage Canadians to make more sustainable transportation choices
2. Enhance innovation and skills development
3. Increase system efficiency and optimize modal choices
4. Enhance efficiency of vehicles, fuels and fuelling infrastructure
5. Improve performance of carriers and operators
6. Improve decision-making by governments and the transportation sector
7. Improve management of Transport Canada operations and lands

To develop this Strategy, Transport Canada drew on the expertise of a national advisory group and other federal departments; consulted the provinces, territories and municipalities; and received input from Canadians from coast to coast. The Strategy represents Transport Canada's plan for making better decisions in partnership with stakeholders in the transportation sector.

The Strategy is available on Transport Canada's Web site at www.tc.gc.ca/programs/environment/sd/sds0406/menu.htm.

Climate Change Mitigation

The federal government ratified the Kyoto Protocol in 2002, committing Canada to reduce GHG emissions to six per cent below 1990 levels by the year 2010. In February 2003, the federal budget underscored Canada's commitment to take action on climate change. Budget 2003 provided $2 billion to be allocated among the climate change initiatives in the *Climate Change Plan for Canada*. In August 2003, the government announced the allocation of $1 billion of Budget 2003 funding. Of that amount, a total of $161 million has been set aside for transportation measures. The Climate Change Plan, which incorporates Action Plan 2000 on Climate Change, focuses on increasing vehicle efficiency and the production and use of alternative fuels. In addition, important steps have been taken to foster freight efficiency and to enhance passenger choices in urban areas.

The following section briefly highlights key transportation measures.

Vehicle Efficiency

Motor Vehicle Fuel Efficiency Initiative

The Government of Canada has renewed its commitment to working with automotive manufacturers to develop a new fleet fuel efficiency goal. The government's objective is to improve light-duty vehicle fuel efficiency by 25 per cent by 2010. To assist consumers in making the best environmental choices, the government will enhance public information programs. For example, the federal government launched the "Be Tire Smart" campaign in fall 2003. This campaign is a national public outreach and education initiative designed to encourage Canadian motorists to adopt proper tire inflation and maintenance practices in order to improve the fuel efficiency of their vehicles and prolong tire life, both of which save energy and reduce emissions that contribute to climate change.

Advanced Technology Vehicles Program

The Advanced Technology Vehicles Program (ATVP) is a major part of the Motor Vehicle Fuel Efficiency Initiative. Advanced technology vehicles are vehicles with available, or soon to be available, technologies able to improve fuel efficiency, reduce air emissions and contribute to the development of cleaner, sustainable transportation systems. These vehicles are being evaluated to determine their impact on fuel efficiency, safety and the environment. At the end of 2003, the ATVP fleet included 87 vehicles. Transport Canada's first ATVP annual report was released on July 21, 2003. It found that the public reaction to small urban vehicles is positive. It also reported that, as advanced technology vehicles operate in the same manner as conventional ones, the transition to these vehicles would be largely seamless and transparent to Canadians. Challenges remain to demonstrate that these vehicles are as safe as other larger vehicles in the market. In addition, the availability of these vehicles in the Canadian market might be limited.

Alternate Fuels Initiatives

Fuel Cell Initiatives

The Government of Canada, through its Action Plan 2000, is investing $23 million in the Canadian Transportation Fuel Cell Alliance program to demonstrate and evaluate different fuelling options for fuel cell vehicles. It will also analyze the ways the fuel may be delivered to vehicles, establish safety standards for fuelling stations, and develop training and certification programs for the people who install and maintain those stations.

As part of the August 2003 announcement, $130 million will be invested in building knowledge and accelerating the development and commercialization of fuel cells and other technologies that will form the basis of the emerging hydrogen economy, including technologies to produce hydrogen from renewable energy sources. Investments will be available to support public- and private-sector partnerships to develop and demonstrate hydrogen technologies and infrastructure in integrated, real-world settings. An additional $50 million will also be invested in hydrogen economy-related projects from the $250 million Sustainable Development Technology Canada allocation.

In April 2003, the former Minister of Industry, Allan Rock, released the Canadian Fuel Cell Commercialization Roadmap. The Roadmap identifies how Canadian companies, institutions and governments can plan their investment decisions, industrial development activities, and research and educational programs to accelerate the commercialization of fuel cell and hydrogen technologies, which hold significant potential for environmental benefit and economic opportunity.

Ethanol Expansion

The federal government proposes to work with the provinces, territories and industry to increase the supply and use of ethanol produced from biomass such as plant fibre, corn and other grains. Specifically, the Climate Change Plan goal is to have 35 per cent of our national gasoline supply contain low-level ethanol blends (up to 10 per cent) by 2010. To achieve the Ethanol Expansion Program, $100 million has been allocated over the 2003 – 2006 period to support new ethanol production in Canada.

Biodiesel

On August 12, 2003, the Government of Canada announced the proposed expenditure of $11.9 million to support research and to provide incentives for industrial-scale biodiesel pilot plants. These funds also will support demonstration projects to encourage broader use of this cleaner burning alternative to conventional diesel.

Natural Gas

The federal government will also invest $9.9 million to reduce the cost of natural gas vehicles in urban fleets, such as taxis and delivery trucks. This measure will help to increase demand for these lower-emitting vehicles and encourage manufacturers to increase production of these vehicles.

Freight Initiatives

Freight Efficiency and Technology Initiative

This initiative is led by Transport Canada in collaboration with Natural Resources Canada and is designed to reduce the growth of GHG emissions from freight transportation. It consists of three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal associations; and training and awareness for freight carriers. In 2003, the FSDP allocated approximately $1.89 million for 14 projects. In addition, two new demonstration projects were initiated. The Freight Efficiency and Technology Initiative also co-funded and helped to organize freight-related conferences and workshops to raise awareness of the program and to promote best practices to reduce GHG emissions from the freight sector.

Commercial Transportation Energy Efficiency and Fuels Initiative

The Climate Change Plan includes a new four-year $54.1 million Commercial Transportation Energy Efficiency and Fuels Initiative, co-led by Transport Canada and Natural Resources Canada. It seeks to reduce the growth of GHG emissions in Canada's commercial transportation sector. Transport Canada's component of this initiative is the Freight Efficiency Program, which focuses on air, marine and rail freight operations and shippers. The program will provide financial incentives for the purchase and installation of efficiency enhancing technologies and equipment. It also includes a marine shore power pilot project to reduce ship idling at terminals and a training and awareness program for shippers and freight forwarders. The Natural Resources Canada component of the initiative focuses on the on-road activities of the commercial transportation sector.

URBAN PASSENGER TRANSPORTATION

The Urban Transportation Showcase Program

The Urban Transportation Showcase Program is a $40 million initiative to demonstrate and evaluate the impacts of integrated strategies to reduce GHG emissions from urban transportation. The program also evaluates the effects of these strategies on achieving other objectives such as increased energy efficiency, technology testing, cleaner air, reduced operating costs and increased active transportation (see text box Active Transportation). Information from the showcases and on sustainable urban transportation is generally disseminated via learning events, Internet communications, publication of case studies and award grants to encourage the replication of successful strategies.

In 2003, the program evaluated detailed proposals from 15 cities across Canada and announced the selection of eight of these proposals for implementation. Selected showcase proposals came from: Whitehorse, the Greater Vancouver Regional District, Winnipeg, Waterloo, the Greater Toronto Area and the City of Hamilton, Gatineau, Montreal and Halifax. The integrated strategies to be implemented by March 2007 in these cities include bus rapid transit, targetted social marketing, enhanced cycling and walking corridors, hybrid-electric buses, electric station cars, transportation management associations and transit villages. These strategies are being implemented in partnership with local, regional, provincial and territorial governments, non-profit groups, the private sector, and education and research institutions.

Throughout 2003, the program's Information Network sponsored learning events and recognized achievements that focused on air quality, land use, smart growth, congestion pricing and climate change. Sponsored awards were presented to the City of Calgary's Transportation Solutions Group and to the City of Ottawa for its O-Train project.

ACTIVE TRANSPORTATION

Active transportation is non-motorized transportation, including travel modes such as walking, bicycling and manual-powered wheelchair. Active transportation is also an effective remediation option for the reduction of traffic congestion in urban centres that can lead to an overall reduction of automobile emissions and GHG emissions.

The Federation of Canadian Municipalities (FCM) has developed a guide for implementing and promoting active modes of transportation such as walking, cycling and in-line skating in Canadian communities. It is a comprehensive and practical resource that helps communities across Canada make active transportation a bigger part of their response to everyday transportation challenges like air pollution. The FCM partnered with Transport Canada, Health Canada and Environment Canada on this project. The guide can be found at http://kn.fcm.ca.

Moncton, New Brunswick, is one of Canada's fastest growing cities. As such, there is an increasing strain on its social, physical and environmental systems. In response, the city has developed a linear park and greenway network to apply a sustainable development approach toward the preservation of critical habitat spaces and trails. As part of this, Moncton began work on the Millennium Trail (a pathway surrounding the municipality that links many communities to parks and other important civic and business destinations). These initiatives led the city's environmental committee to consider future health, active living and transportation needs. This in turn led to the formation of the Active Transportation committee, which was charged with developing an Active Transportation Plan.

Still being refined and implemented, the plan has the potential to transform the City of Moncton from an automobile-reliant community to a place where motorists, public transit riders, walkers, cyclists and others share a common vision for future transportation desires and needs. The plan provides a framework for integrating user desires for the various modes of getting around with desired community destinations and represents a significant initiative in the development of sustainable transportation.

Infrastructure

In keeping with the commitments in the September 30, 2002, Speech from the Throne regarding modern infrastructure and a new strategy for a safe, efficient and environmentally responsible transportation system, the Government of Canada proposed to place a greater emphasis on public transit in existing and future infrastructure funding. This will be done in conjunction with municipal efforts to establish supportive transportation management and land-use planning frameworks, and significant provincial and territorial actions to increase demand for public transit and reduce single-occupant vehicle use.

The August 12, 2003, announcement referenced the $3 billion infrastructure investment outlined in the federal Budget 2003, as a further source of effort to reduce GHGs. These funds will be delivered through the Canada Strategic Infrastructure Fund (CSIF) and the Municipal-Rural Infrastructure Fund (MRIF), managed by Infrastructure Canada.

Transportation projects (road, transit, rail) are approved by the Minister responsible for Infrastructure, with analysis and advice from Transport Canada. All transportation projects under CSIF are negotiated jointly and implemented by Transport Canada.

Air Quality

In 2003, Environment Canada continued to make significant progress in implementing new regulatory measures under the Federal Agenda on Cleaner Vehicles, Engines and Fuels. On January 1, 2003, the On-Road Vehicle and Engine Emission Regulations were published under the *Canadian Environmental Protection Act* (CEPA), 1999. They became effective January 1, 2004. As these cleaner vehicles are introduced into the Canadian fleet they will result in progressively reduced annual emissions of smog-forming pollutants. The regulations ensure that 2004 and later model year on-road vehicles and engines will be designed to meet progressively more stringent emission standards in alignment with corresponding U.S. federal emissions rules. The regulations apply to light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, heavy-duty vehicles and motorcycles.

The above regulations were complemented by the previous adoption of the Sulphur in Diesel Fuel Regulations (2002) to reduce the maximum sulphur content of on-road diesel fuel to 15 parts per million beginning in 2006 in order to ensure the effective performance of advanced vehicle/engine emission control systems. Together, the two regulations are estimated to have the following emission reductions from the fleet of on-road vehicles operating in Canada in 2020: NO_x (-73 per cent), particulate matter (-64 per cent), carbon monoxide (-23 per cent) and VOC (-14 per cent). These measures will also result in decreased emissions of several pollutants, which have been declared "toxic" under CEPA 1999, such as benzene and acetaldehyde.

In November 2003, Environment Canada published the final Off-Road Small Spark-Ignition Engine Emission Regulations, the first of a series of planned regulations to reduce emissions from engines used in variety of off-road applications. Other off-road engine emissions regulations under development will address diesel engines such as construction and agricultural machinery, personal watercraft and recreational vehicles such as snowmobiles and all-terrain vehicles.

Clean Water

Transportation-related water pollution remains an important issue. The federal government aims to protect the integrity of aquatic and terrestrial ecosystems, avoid human exposure to hazardous substances and preserve human enjoyment of the environment. In 2003, for example, the federal government continued to prevent, detect and respond to marine pollution incidents through a national marine spill preparedness and response system. It participated in and contributed to the development of new regulations through meetings of the International Maritime Organization (IMO). Amendments to the Dangerous Goods Shipping Regulations have resulted in a greater consistency between Canadian dangerous goods regulations and international marine pollution agreements. These regulations require clear identification of marine pollutants to minimize accidental pollution and proper marking and labelling of packages.

During 2003, Transport Canada established an inventory of all its owned and operated facilities that provide drinking water. Transport Canada also worked with an Interdepartmental Drinking Water Committee to develop a draft federal drinking water program, which will be completed in the near future.

Although existing legislation does not specifically require water monitoring, federal, provincial and municipal laws do specify water quality standards and guidelines to be followed by industry. To ensure that airport effluent does not negatively impact on the environment, Transport Canada airports have implemented a program of sampling and analyzing stormwater from airports throughout Canada.

Contaminated Sites Management Plan

Budget 2003 provided funding over five years ($75 million for the first year and $100 million per year for the four subsequent years) to accelerate the clean-up of federal contaminated sites in Canada. It is expected that this funding will reduce federal liabilities through the care and maintenance of abandoned mines in the North and the remediation of high risk contaminated sites and the advancement of remediation on many others.

In July 2003, each federal department and agency, including Transport Canada, submitted a five-year departmental contaminated sites management plan to Treasury Board as required in the newly enacted Federal Contaminated Sites Management Policy.

The plan provides a common framework for prioritizing and selecting sites for further action, assisting in identifying contaminated site funding requirements, and will contribute to sustainable development. It will be updated annually to reflect departmental priorities, technology advancements and availability of resources.

Provincial/Municipal Initiatives

The provinces and territories are responsible for most aspects of highways, vehicle licensing and inspection. Municipal governments manage urban planning and local transportation systems, including urban roads, bridges and public transit. Consequently, each of these levels of government contributes to a sustainable transportation system. The following are some examples of initiatives that have been conducted in 2003 in the provinces and/or municipalities to improve sustainability of the transportation system.

Saskatchewan

The Saskatoon Transit Service and Saskatchewan Highways are testing a canola-oil blend "biodiesel" in portions of their fleets. Expected results include reduced diesel fuel consumption, reduced NO_x/VOC emissions, and significantly reduced vehicle engine wear. The City of Regina and Saskatchewan Energy have converted their vehicle fleets to compressed natural gas. Further, Saskatchewan Energy has established several natural gas vehicle-fueling stations in the province to serve the public. The use of compressed natural gas reduces petroleum consumption and vehicle emissions.

Manitoba

On April 16, 2003, the Province of Manitoba released the *Preliminary Hydrogen Opportunities Report*. This report examines the future use of hydrogen and outlines possible opportunities in the area of hydrogen development for Manitoba. In addition, in 2003, the Sustainable Development Innovations Fund approved grants for two projects to be conducted. A grant of $25,000 was provided to design, develop and test biodiesel fuels in transit buses in Canadian prairie conditions. A grant of $8,500 was provided to assess the implementation of alternative fuels in fleet vehicles within the Red River Valley Region (both the Canadian and U.S. portions) in order to promote increased use of alternative fuels within the region.

Ontario

Ontario's tax rebate program for vehicles powered by alternative fuel provides purchasers or long-term lessors of qualifying vehicles with a retail sales tax rebate of up to $1,000. In the 2003 Ontario Budget, the government proposed to double the retail sales tax rebate for qualifying alternative fuel vehicles to a maximum of $2,000. Certain hybrid electric passenger cars are also eligible for this rebate. In addition, the Ontario government announced a 10-year plan to expand and renew Ontario's transit infrastructure. This included: $1 billion for GO Transit base capital needs; $750 million for the municipal transit renewal program; $1.25 billion for inter-regional transit expansion in the Golden Horseshoe Region; and $250 million for strategic transit expansion projects in urban areas outside the Golden Horseshoe Region. The 2003 Budget also included an announcement that the province would provide funding toward a new GO Transit bus rapid transit network.

Quebec

The Société de Transport de Montréal completed a pilot test using 20 per cent biodiesel blend fuels in their transit buses. Fuel feedstock was from used restaurant grease, animal fats from rendering plants and virgin vegetable oils. The BIOBUS project demonstrated that it is viable for public transit authorities to use biodiesel and that significant reductions in both GHG and air pollutants are possible. At its April 2003 convention, the Association québécoise du transport et des routes honoured the BIOBUS project with its environmental award for technical achievement.

New Brunswick

In 2003, New Brunswick's Department of Transportation released its Strategy Plan for 2002 – 2005. The plan identified nine strategic goals, one of which is to be environmentally responsible and proactive in all departmental activities. Its objectives are to: integrate the concepts of continuous improvement, environmental protection and pollution prevention in all aspects of the department's work; take special steps to protect the environment surrounding the department's maintenance facilities; ensure all field staff have appropriate training in environmental protection; investigate new, environmentally responsible technologies and methodologies; and cooperate with the federal government, the provincial Department of Environment and local governments and others in educating the public on the need for reducing transportation-related GHG emissions. The department will also monitor and measure progress on implementation of its road salt management initiatives and its environmental planning for proposed highway projects that fall under environmental impact assessment legislation.

Toward a Sustainable Transportation System

The activities reported in this chapter show that efforts are being taken at all levels of government to promote a more sustainable transportation system. A safe, secure, efficient and environmentally responsible transportation system is critically important to Canada's overall economic and social well-being. Much progress is being made. However, much more is required to ensure a sustainable transportation system for current and future generations.

RAIL TRANSPORTATION 6

Although a modest amount of track was transferred in 2003, none was discontinued. Railway revenues increased slightly, while continuing productivity gains again resulted in declining freight rates.

MAJOR EVENTS IN 2003

Due to a grain harvest significantly below historical levels in 2002, Canadian railways saw movements of grain drop by about 24 per cent from 2001. Grain movements increased only slightly in 2003.

Overall traffic levels declined by about one per cent. Rationalization activity and changes in industry structure were again minimal.

Canadian National (CN) was successful in its bid to acquire BC Rail.

INFRASTRUCTURE

There was relatively little change in the structure of the Canadian rail system in 2003. As no track was discontinued, there was no aggregate change in the size of the overall rail network. Only a moderate amount of track was transferred. Most of the activity centred on the transfer of almost 400 kilometres of track in Quebec and about 330 kilometres of track in Saskatchewan to other operators. In Quebec, track and facilities previously owned by Canadian American and Quebec Southern Railway was transferred to Montreal, Maine and Atlantic Railway, while in Saskatchewan, CN transferred track to a railway called Prairie Alliance for the Future.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2003.

As has been noted in previous annual reports, there was explosive growth in the number and activity of shortlines in Canada in the second half of the 1990s. From modest beginnings in the late 1980s, the number of shortlines formed in Canada grew slowly during the early 1990s and then quite dramatically following the enactment of the *Canada Transportation Act 1996*. Before 1996, 11 new shortlines had formed; between 1996 and 2000, 37 new shortlines were created. Only a few new shortlines have been created since 2000, however, suggesting that the sector has reached a plateau. Undoubtedly, transfers will occur in the future but it is unlikely that the rapid growth of a few years ago will be repeated.

Approximately 9,400 kilometres of rail line were discontinued between 1990 and 2003. Most of this was discontinued fairly equally by CN and Canadian Pacific Railway (CPR). In aggregate, almost 60 per cent of all discontinuances in this period occurred in Ontario, Saskatchewan and Alberta. Over this period, about 12,700 kilometres of track was transferred, predominantly from CN and CPR to newly formed shortline carriers. Only a small amount of track was transferred between other carriers. In 2003, however, the amount of track transferred between shortlines exceeded that between CN, CPR and the shortline sector. Of the total amount of track

TABLE 6-1: RAILWAYS IN CANADA, 2003

	2003 Owned / Leased Route-Kilometres	*2002 Owned / Leased Route-Kilometres*[1]	*Per cent of Total (2003)*	*Percentage Change Over Previous Year*
CN Rail	18,561	18,887	38.0	(1.7)
CP Rail	13,447	13,459	27.5	(0.1)
Regional and Shortline Railways	16,059	15,716	32.8	2.2
All Others[2]	843	846	1.7	(0.4)
Total	**48,909**	**48,909**		**0.0**

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.
Totals may not add up due to rounding.
1. 2002 figures revised slightly to reflect improved data.
2. Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

transferred between 1990 and 2003, about one third originated with CPR and two thirds with CN.

Table 6-2 shows rationalization activity in the rail sector in 2003 and from 1990 to 2003.

TABLE 6-2 RAILWAY RATIONALIZATION IN CANADA

		2003 Rationalization	*1990 – 2003 Rationalization*
Discontinuances	CPR		4,244
	CN		4,353
	Other		839
	Total		**9,437**
Transfers	CPR	13	3,829
	CN	339	8,002
	Other	397	864
	Total	**748**	**12,695**
Total	CPR	13	8,073
	CN	339	12,355
	Other	397	1,703
	Total	**748**	**22,131**

Note: Totals may not add up due to rounding.
Source: TransportCanada

Since 1990, 22,131 kilometres of line have been rationalized, leading to major changes in the structure of Canada's rail industry. CN and CPR remain the dominant carriers (accounting for 85 per cent of industry activity and revenues) but they operate only about two thirds of the total domestic rail network, significantly less than the 90 per cent they operated a decade ago. This may change somewhat as regional railways previously owned by provincial governments are sold. The proposed CN acquisition of Ontario Northland Railway did not occur, although CN was recently successful in acquiring BC Rail. The acquisition must still be approved by the Competition Bureau.

While it is expected that both CN and CPR will continue to rationalize their networks, it is likely that second-order rationalization (the rationalization of track acquired by shortline or other operators from CN or CPR) will also continue.

Addendum tables A6-1 and A6-2 give further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The number of carriers more than doubled in the 1990s, changing the character of the Canadian railway industry dramatically. Nonetheless, CN and CPR continue to account for most of the revenues in the rail industry. In 2002, rail industry revenues totalled $8.2 billion; 88.5 per cent of this was generated by the Class I carriers, CN, CPR and VIA Rail. This was down slightly from the 90.5 per cent share in 1990. However, revenues for the Class I carriers grew at an annual rate of 1.3 per cent over the 1990 – 2002 period. On the other hand, revenues of the regional railways (BC Rail, Algoma Central,[1] Ontario Northland, Cartier Railway and the Quebec North Shore & Labrador) declined by 0.3 per cent per year. The shortline sector saw significant growth in its revenues, from about $95 million in 1990 to about $392 million in 2002. This was an annual growth rate of 12.5 per cent, which translated into a relative increase in the shortline sector's proportion of rail industry revenues from 1.5 to 5.0 per cent.

Table 6-3 compares revenues in the railway sector in 2001 and 2002. Addendum Table A6-3 shows revenues since 1990.

TABLE 6-3: RAILWAY REVENUES, 2001 AND 2002

(Millions of dollars)

	2001	*2002*
CN	3,917	3,971
CPR	2,950	2,943
VIA Rail	399	407
Subtotal Class I	**7,266**	**7,321**
Regional	495	502
Shortlines	384	392
Total	**8,145**	**8,215**

1. Estimated for several carriers.
Source: Transport Canada, Statistics Canada

VIA Rail continues to dominate the intercity rail passenger sector, with about 95 per cent of total passenger revenues. Also providing intercity rail passenger services are Algoma Central, Ontario Northland and the Quebec North Shore & Labrador. Amtrak, the U.S. passenger rail corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail). The Great Canadian Railtour Company offers seasonal services between Vancouver and Calgary and Jasper.

1 This is the final year that Algoma Central will be recognized as a separate entity for operating and financial reporting purposes. All reporting has now been integrated under CN Rail.

EMPLOYMENT

The level of railway employment has been declining significantly for many years (see Addendum Table A6-4). Between 1990 and 2002, railway employment fell 4.8 per cent per year, from more than 67,000 to about 37,000. Employment at Class I carriers dropped 48 per cent over this period, or 5.2 per cent per year. It also dropped at regional rail carriers, albeit at a lower rate (4.5 per cent) and from a smaller base (about 5,600 in 1990 to 3,260 in 2002). In contrast, employment in the shortline sector jumped 260 per cent, for an annual growth rate of 11.3 per cent. In 2002, the shortline sector employed approximately 2,000 people. Consistent with these changes are the relative levels of participation in the rail sector by each class of carrier. The Class I carriers dropped from about 91 per cent of total rail industry employment in 1990 to about 86 per cent in 2002. The regional rail carriers stayed roughly the same in relative terms, while shortline employment grew from a virtually non-existent proportion to about five per cent of the total rail industry employment.

Table 6-4 compares the level of employment in the rail industry in 2001 and 2002.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2001 AND 2002

	2001	*2002*
Class I	34,016	32,005
Regional	3,710	3,258
Shortline	2,090	2,014
Total	**39,816**	**37,278**

Note: Totals may not add up due to rounding.
1. Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Although they still accounted for 90.8 per cent of total sector fuel consumption in 2002, Class I railways (including VIA Rail) have significantly increased their fuel efficiency since 1990. In that year, they consumed about 1.9 billion litres of fuel, compared with 1.8 billion litres in 2002 (see Addendum Table A6-5). Over this same period, however, output in terms of revenue tonne-kilometres (RTKms) increased by 30 per cent, from about 225 billion to about 293 billion RTKms (see Addendum Table A6-6). Three main factors accounted for this increased fuel efficiency: important investments by CN and CPR in new locomotive replacement programs in the latter half of the 1990s; changes in operating practices; and a reduction in operations over low-density lines, which for the most part were transferred to other operators.

Table 6-5 compares output in the railway sector in 2001 and 2002.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2001 AND 2002

	2001	*2002*
Class I	292,916.6	292,195.7
Regional	20,847.5	19,773.3
Shortline[1]	8,719.8	9,980.5
Total	**322,483.9**	**321,949.5**

1. Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2001 and 2002.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2001 AND 2002 (MILLIONS OF LITRES)

	2001	*2002*
Class I	1,772	1,808
Regional	139	125
Shortline	89	85
Total	**2,000**	**2,019**

Note: Totals may not up due to rounding.
1. Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Fuel consumption and output of the regional railways have both remained relatively stable in recent years. Until recently, their fuel efficiency has been higher than Class I railways. However, this has been largely due to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway, which, as a result of the nature of its operations, has experienced fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

The overall output of railways operating in Canada increased between 1998 and 2001. From 2001 to 2002, however, it decreased slightly, due to the combination of CN's 2.0 per cent increase to 171.5 billion tonne-kilometres and CPR's 3.3 per cent decline to 120.7 billion tonne-kilometres. Class II carriers reported a combined output of 29.7 billion tonne-kilometres in 2002, a decrease of almost 2.5 per cent from 2001 and 10 per cent since 2000. This decrease was largely due to a decline in iron ore traffic.

Since 1996, movements of traffic forwarded to CN and CPR from Canadian Class II carriers have increased. From 2000 to 2001, however, such movements decreased slightly from 18.9 to 18.5 million tonnes, mainly due to a drop in coal traffic from BC Rail. In 2002, this traffic rebounded up to 19.5 million tonnes. Rail movements in which Canadian Class II carriers received traffic from CN and CPR dropped for the second year in a row, to slightly more than eight million tonnes in 2002. Traffic originating on a Canadian Class II carrier and then forwarded to CN or CPR and subsequently forwarded to another Canadian Class II carrier to be terminated totalled 0.35 million tonnes in 2002. This was a 27 per cent decrease from 2001. The latter traffic, because it involves a bridge movement over CN or CPR, has both a forwarded and received component and would be double-counted if it was included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1990.

Based on data for three quarters of 2003, CN output is expected to decrease slightly to 157 billion tonne-kilometres while CPR output is expected to increase to 126 billion tonne-kilometres.

RAIL FREIGHT TRAFFIC — COMMODITIES

Annual rail loadings for 2003 decreased slightly to 259.8 million tonnes (not including receipts from U.S. connections). See Addendum Table A6-9 for details. Volumes in Western Canada dropped two per cent to 137.5 million tonnes, while volumes in Eastern Canada increased one per cent to 122.3 million tonnes. Principal commodities loaded in Western Canada included coal, fertilizer materials, forest products and grain; dominant loadings in Eastern Canada were iron ore, other ores and mine products, forest products and intermodal shipments.

GRAIN

Grain shipments decreased in 1998 and 1999 to as low as 26.5 million tonnes and then rose to just over 30 million tonnes in 2000 and 2001. In 2002, grain shipments fell again, dropping by 28 per cent to 22 million tonnes before increasing only slightly in 2003 to 22.8 million tonnes. Shipments dropped three per cent in the West but almost doubled in the East.

COAL AND COKE

Coal and coke shipments increased significantly in 1999 but dropped 11 per cent in 2002 to just below 37 million tonnes and 14 per cent in 2003 to 31.7 million. This is the lowest volume ever reported for this commodity group.

FOREST PRODUCTS

Following a decline to just above 16 million tonnes in 1998, volumes of non-processed forest products remained steady until 2002, when shipments increased to 19 million tonnes. In 2003, however, this commodity dropped slightly to 17.5 million tonnes. The volume of processed forest products, in contrast, has increased each year, reaching 25 million tonnes in both 2002 and 2003. The net result has been a relatively stable volume of forest products, hovering around 40 million tonnes until 2002, when loadings reached 45 million tonnes. In 2003, total forest product loadings decreased four per cent to 42.6 million tonnes.

ORES AND MINE PRODUCTS

In 2001, shipments of iron ore dropped to just below 29 million tonnes. Since then, this commodity has been increasing only slightly, reaching 33 million tonnes in 2003. Other ores and mine products decreased nine per cent to 23.2 million tonnes in 2003, after four consecutive years of growth.

Fertilizer Materials

After a drop in shipments of fertilizer materials in 2001, they rose almost seven per cent in 2002 and then six per cent in 2003 to reach 27.6 million tonnes, close to the highest reported value in the last 12 years.

Industrial Products

Chemicals, the largest commodity of this group, decreased four per cent to 14.4 million tonnes in 2003. After a 10 per cent increase in 2002, metals remained steady near 10.6 million tonnes. Loadings of automobiles and parts reached a high of 5.3 million tonnes in 2003 (a two per cent increase), as did petroleum products, at 14.4 million tonnes (a five per cent increase).

Intermodal

Addendum Figure A6-1 shows trends in intermodal traffic over the last several years. Between 1996 and 2002, CN and CPR intermodal tonnage grew by 9.2 million tonnes, an average annual growth rate of 7.1 per cent. North American intermodal traffic was very robust, as growth exceeded eight per cent per year over the same period (except for 1998). As Addendum Figure A6-2 shows, volumes of Canadian origin–destination increased at an even higher average annual growth rate of almost 10 per cent over this period. There was a significant difference in growth between rail intermodal exports and imports to/from offshore regions: exports increased by an annual average of 2.3 per cent, while imports grew by 9.3 per cent per year.

Growth in total rail intermodal volumes was significant between 2001 and 2002 (10 per cent) after only a small growth the year before. Volumes of North American traffic remained strong, increasing by nine per cent and accounting for 44 per cent of total rail intermodal volumes (see Addendum Figure A6-3). Volumes of Canadian origin–destination increased by 8.5 per cent during the year, making up 37 per cent of total market share.

As Addendum Figure A6-4 shows, containers on flat cars (COFC) continued to increase their market share, accounting for more than 92 per cent of total intermodal volumes in 2002. This is up considerably from 1996, when COFC only accounted for 77 per cent of total intermodal traffic. This increase came at the expense of trailer on flat car (TOFC) volumes, which decreased proportionately.

Rail Freight Traffic Between Canada and the United States

Addendum Table A6-10 shows rail export and import volumes by commodity since 1996. In 2003, export rail tonnage increased 6.2 per cent to 70.8 million tonnes. Forest products remained the largest contributor to export tonnage, increasing slightly to 25.9 million tonnes. Other major export commodities included chemicals and fertilizer materials, which accounted for 18.8 million tonnes, or 27 per cent of total export tonnage in 2003. Although exports of iron ore decreased in 2003 from 0.4 to 0.3 million tonnes, movements of this commodity by rail remained well above the norm. Grain and coal each experienced a decline (21 and 24 per cent, respectively), while mine products (other than iron ore) increased almost 32 per cent.

Addendum Table A6-11 shows rail export and import values by commodity since 1996. Automotive has consistently been the largest contributor to the value of exports, accounting for 53 per cent in 2003, followed by forest products at 20 per cent. Automotive exports decreased 6.7 per cent, while forest products increased 4.7 per cent, resulting in an overall decrease in the value of exports to $72.6 billion.

Ontario remained the largest contributor to the volume and value of rail exports in 2003, originating 19.7 million tonnes (28 per cent of total volume) and $48.8 billion (67 per cent of total value).

British Columbia and Saskatchewan were other major contributors of export volume, originating a combined 24 million tonnes, or 34 per cent of total exports. Quebec and British Columbia followed Ontario with a combined $13.4 billion, 18.5 per cent of total export value. See Addendum tables A6-12 and A6-13 for export volumes and values by province of origin.

Although import rail tonnage increased at a higher rate than exports since 1996, it dropped in 2002 to 19.1 million tonnes before increasing again in 2003 to 20.5 million tonnes. Major commodities included chemicals, agricultural and food, grains and metals. In combination, these commodities accounted for 59 per cent of total import volume.

Automotive imports dropped 16 per cent, declining for the first time in eight years to just over one million tonnes. This correlated to a 13 per cent drop by import value to $12.6 billion. Automotive, however, still remained the top commodity, accounting for 51 per cent of import value.

As Addendum Table A6-14 shows, Ontario received 10.9 million tonnes in 2003, 53 per cent of imports by volume. An overall increase of import volume cleared in Alberta since 1996 places it ahead of British Columbia. Combined, Alberta and Quebec cleared 6.5 million tonnes of imports in 2003. In terms of value, Ontario was also the dominant province of clearance, with $17.2 billion, a 9.2 per cent decrease from 2002 (see Addendum Table A6-15).

Addendum tables A6-16 to A6-19 provide more details on exports and imports. These tables show major commodities originating from and cleared in the provinces mentioned above.

Border Crossing Points

As Addendum Table A6-20 shows, Fort Frances and Sarnia, both in Ontario, were the dominant border crossing points for rail exports by volume in 2003, accounting for 19.4 per cent (13.8 million tonnes) and 16.6 per cent (11.7 million tonnes) of exports, respectively. Forest products, fertilizer materials and chemicals were the major commodities exported at these border points.

As Addendum Table A6-21 shows, Sarnia and Windsor were the dominant border crossing points for exports by value in 2003, accounting for 36.7 per cent ($26.8 billion) and 22.1 per cent ($16.0 billion), respectively. Automotive products were the top commodity exported at these locations, followed by metals and forest products.

Sarnia was also the leading border crossing point for import tonnage, handling 4.2 million tonnes, or 20 per cent of total rail import volume in 2003 (see Addendum Table A6-22). The major commodities imported at Sarnia were agricultural and food products (other than grains) and chemicals. Other major locations as ports of clearance included Toronto, Sault Ste. Marie, Edmonton and Montreal. A decline in rail traffic through Huntingdon, B.C., resulted in a drop of import tonnage cleared by this port in 2002 and 2003.

The value of imports cleared in Windsor declined for the second year in a row (by 30 per cent from 2002 to 2003), making Toronto the top port of clearance by value, at $4.6 billion. Valuable commodities cleared in Toronto included automotive and chemicals. Addendum Table A6-23 shows rail imports by value and port of clearance.

Overseas Trade

Class I railways carried 82 million tonnes of goods to and from Canadian ports in 2002, an 11 per cent decrease from 2001. Traffic in transit to and from the United States increased by 13 per cent in 2002 to 4.3 million tonnes. Addendum Table A6-24 shows the fluctuation of rail–marine exports and imports since 1996.

Although rail–marine exports originating from British Columbia, Alberta and Saskatchewan declined in 2002, these provinces continued to be the major contributors, with a combined 59.5 million tonnes. Addendum Table A6-25 shows rail–marine exports since 1996 for all provinces of origin and the United States.

Coal traffic fell to 28 million tonnes in 2002, an 11 per cent decrease, and rail–marine exports of grain fell to 15.4 million tonnes, an almost 34 per cent decrease. Fertilizer materials, however, another major rail–marine export, rose to 9.6 million tonnes in 2002, a 14 per cent increase. Addendum Table A6-26 shows rail–marine exports by commodity since 1996.

Rail–marine imports of Class I carriers increased slightly in 2002 to 8.8 million tonnes, of which 89 per cent consisted of intermodal traffic.

Ontario and Quebec remained the top two destination provinces for rail–marine imports in 2002, totalling 5.2 million tonnes (59 per cent of the total). This was a slight increase from 2001. Rail–marine imports destined for the United States also increased, to 2.7 million tonnes. The volume of goods destined for Alberta continued to drop, down 5.7 per cent to 0.45 million tonnes in 2002. Addendum Table A6-27 shows rail–marine imports since 1996 for all destination provinces and the United States.

At 0.4 million tonnes in 2002 (a 35 per cent decrease), ores and mine products were the second largest commodity for rail–marine imports. This was still, however, well below intermodal traffic levels. Table A6-28 shows rail–marine imports by commodity since 1996.

PASSENGER TRAFFIC

As Addendum Table A6-29 shows, total passengers carried increased 1.7 per cent and passenger-kilometres increased by 2.8 per cent for intercity rail traffic from 2001 to 2002. The number of VIA Rail passengers increased by 3.0 per cent to 4.0 million and passenger-kilometres increased by 3.0 per cent to 1.5 billion. Addendum Table A6-29 also lists Class II carriers with intercity services, which include Algoma Central, BC Rail, Ontario Northland and the Quebec North Shore & Labrador Railway. Unlike VIA Rail, these carriers experienced a combined 14 per cent decrease in passengers to 0.27 million and a slight increase in passenger-kilometres to 71 million. These fluctuations were due to a large decrease in BC Rail passengers (after dropping rail passenger service in October 2002) and an increase in passenger-kilometres for Ontario Northland.

Commuter rail traffic in Toronto, Montreal and Vancouver rose seven per cent in 2002 to reach 50 million passengers. This change reflects increased riderships in Toronto's GO Transit and Montreal's Agence Métropolitaine de Transports (AMT). Once again, GO Transit represented 70 per cent of commuter rail traffic. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT CLASS I RAILWAYS

From 1996 to 2002, the revenues of CN and CPR operations in Canada grew by two per cent a year, on average. Some 78 per cent of this growth came from intermodal services; in 1996, these services were generating only one fifth of CN's and CPR's total freight revenues. This revenue growth was achieved in the context of continuously declining rail freight rates since 1996, 1.1 per cent a year. By commodity groupings, the freight rates of mineral bulk commodities declined the most, three per cent a year. Since 1998, reductions of freight rates for agricultural products have been larger than the averages of other commodities.

The reduction of rail freight rates has been made possible by the strong productivity gains of the industry, which have averaged 5.3 per cent a year since 1996. In 2002, productivity increased by 2.4 per cent. These productivity gains allowed the railways to reduce their unit cost annually by 3.1 per cent between 1996 and 2002.

The productivity gains have also allowed CN and CPR to improve their financial results. In 2002, operating income reached $1.5 billion, with the operating ratio declining at less than 80 per cent. Based on the first three quarters' results in 2003, the combined operating ratio of the two railways rose by five per cent. This was due in part to lower yields. Financial results for the shortline railways deteriorated to levels well below what is necessary to renew assets (see Table 6-7). See tables A2-59 to A2-62 in the Addendum for details.

TABLE 6-7: FINANCIAL INDICATORS OF SHORTLINE[1] RAILWAYS, 2000 – 2002

	2000	2001	2002
Net Fixed Assets in $M	410.5	447.7	448.7
Operating Revenues in $M	282.4	328.5	337.6
Operating Expenses in $M	242.2	286.8	310.4
Net Income in $M	40.2	41.7	27.2
ROA in %	9.8	9.3	5.6
CTA's Approved Cost of Capital in %[2]	11.8	11.4	11.0

Note: ROA = Return on Assets; CTA = Canadian Transportation Agency.
1 Excludes regional railroads such as BC Rail and Canadian connectors to CN railroads.
2 Source: Transport Canada and Statistics Canada.

VIA RAIL

Between 1996 and 2002, VIA Rail's own revenues grew by 7.1 per cent a year. This growth resulted from increases in both prices and output, which rose by 5.2 and 18 per cent, respectively. In 2002, changes in prices and output matched these trends. In 2003, however, both prices and output dropped by 0.5 and 8.6 per cent, respectively.

Although VIA Rail's overall productivity declined by 1.3 per cent in 2002, it was still 10.6 per cent higher than its 1996 level. Total unit costs in 2002 increased by 1.4 per cent but remained 3.4 per cent lower than in 1996.

VIA Rail has increased the proportion of total costs it recovers every year since 1992. This proportion reached 49 per cent in 2002, compared with 23 per cent in 1992. More than half this improvement was achieved from cost reductions.

ROAD TRANSPORTATION 7

In 2002, for-hire trucking carrier revenues declined while bus industry revenues increased.

MAJOR EVENTS IN 2003

Legislative and Regulatory Initiatives

The *Motor Vehicle Transport Act* (MVTA) was amended in 2003. As a result of the amendments, all motor carriers will require a safety fitness certificate in order to operate on Canadian roads. Proclamation of the amended MVTA is expected at the beginning of 2005.

The Motor Carrier Safety Fitness Certificate Regulations are new regulations proposed as a result of the amendments to the MVTA. They were published in the *Canada Gazette* Part I on May 3, 2003. Under these new proposed regulations, provinces and territories would monitor the safety performance of all extraprovincial motor carriers and extraprovincial bus companies licensed in their jurisdiction. They would maintain a complete safety compliance profile of each motor carrier and bus company, using input from all jurisdictions in which they operate. All carriers would receive an initial safety fitness certificate of "Satisfactory — Unaudited" until their safety performance is known and/or a facility audit is completed. A carrier rated "Unsatisfactory" could be prohibited from operating on Canadian roads. The target date for implementing the new Motor Carrier Safety Fitness Certificate Regulations is January 1, 2005.

The national Task Force on Vehicle Weights and Dimensions Policy continued to represent Canada in regulatory harmonization discussions being conducted under the North American Free Trade Agreement (NAFTA) Land Transport Standards Subcommittee.

Special Permit Conditions — The Atlantic provinces began consultation with stakeholders on harmonizing the conditions applicable to special permits required to move oversize and overweight vehicles and loads. Similar work continued in the Western provinces as follow-up to two regional agreements in this area endorsed in late 2002. Work also began on assessing the feasibility of developing training materials and guidance information for drivers of vehicles escorting oversize and overweight vehicles.

At the national level, a Task Force began work on developing common permit guidelines for operation of tridem drive truck tractors. In addition, Quebec and Ontario completed research on the impacts of new designs of wide single tires on highway infrastructure. While a single wide tire offers advantages for fuel efficiency, productivity and vehicle stability, its pavement wear characteristics in Canadian conditions are still being examined.

On February 15, 2003, revisions to the federal regulations of the hours of service rules for commercial vehicle drivers (bus and truck) were published in the *Canada Gazette* Part I. The proposed changes would apply to extraprovincial carriers. The final revised regulations are to be published in the *Canada Gazette* Part II in 2004, after which provincial/territorial jurisdictions could consider implementing comparable hours of service regulations to provincial carriers.

In the United States, new regulations governing hours of service were adopted in 2003 and came into effect in January 2004. The new hours-of-service rules provide commercial truck drivers a work and rest schedule that is expected to significantly reduce driver fatigue. The basic requirements of the regulations are a maximum of 13 hours driving, 14 hours on-duty and 10 hours off-duty, of which eight hours must be consecutive, in a 24-hour period. Similarly, truckers may not drive after being on duty for 70 hours in a seven-consecutive-day period or 120 hours in a 14-consecutive-day period. This on-duty cycle may be restarted only after a driver takes a "weekend" off, that is, at least 36 consecutive hours off duty before "resetting the clock to zero" for the 70-hour cycle and a minimum of 72 consecutive hours off-duty for the 120-hour cycle.

In December 2002, the Senate Standing Committee on Transportation and Communications released a report entitled *Intercity Bus Service in Canada* (see the 2002 *Annual Report* for details on the Committee's recommendations). In terms of reaction to the report, provinces and stakeholders remain divided on the liberalization of economic regulation, with some strongly opposed to change. There is less opposition to the Committee's recommendation of a transitional reverse onus regime, but no real enthusiasm for it either. In 2003, only British Columbia reported administrative changes that streamlined the existing bus regulations.

Other Events of Significance

Border security — New border security measures were introduced by various U.S. agencies in 2003. These included the introduction of new requirements for the transportation of explosives; prior notification requirements on food shipments; and the publication of rules for the advanced electronic filing of cargo information. Enhanced screening, including widespread use of Vehicle and Cargo Inspection Systems (VACIS), has been put in place at the Canada–U.S. border.

Rising Canadian dollar — The appreciation of the Canadian dollar in 2003 resulted in a decrease in exports to the United States and increases of costs encountered in U.S. dollars. Consequently, some transborder trucking rates had to be adjusted upward or currency surcharges introduced.

Rising costs — Upward pressure on insurance premiums were observed in 2003, a situation explained by the declining number of companies offering truck insurance and the rising cost of awards. The cost of diesel fuel also rose in 2003, in part as a result of the war in Iraq. Carriers coped with rising costs through the introduction of surcharges and increases in rates, both delimited by the prevailing market competitive forces.

BSE — The discovery of a case of bovine spongiform encephalopathy (BSE), or mad cow disease, in Alberta on May 20, 2003, led to a significant drop in export beef shipments. Significant restrictions to the exports of Canadian beef were still in place by year-end. Many cattle haulers in Western Canada shifted to hauling other freight, which put additional downward pressures on rates, changed backhaul load availability within the market, and hit the smaller specialized carriers particularly hard.

SARS — In 2003, the charter segment of the bus industry noted declines in both inbound and domestic charter bus traffic, particularly in the Ontario market. The SARS (severe acute respiratory syndrome) outbreak appears to be the most significant factor in this development. The Canadian bus industry has strongly supported campaigns to re-build confidence in Canada and Ontario as a tourism destination.

The pace of consolidation within the bus industry slowed in 2003. At the end of the year, Groupe Orléans Express agreed to purchase the Irving-owned bus operations in the Maritime Provinces (Acadian Lines, SMT Eastern and Nova Charter Service), pending regulatory approval.

Laidlaw, the largest operator of scheduled, charter and school bus services in Canada, emerged from U.S. bankruptcy protection in June 2003. Its base was moved from Canada to the United States.

INFRASTRUCTURE

Road Network

The Canadian road network includes more than 1.4 million two-lane equivalent kilometres. The network consists of 110,000 kilometres of freeways and primary highways, 115,000 kilometres of secondary highways and other arterial roads, and more than 1.2 million kilometres of local streets and rural connector roads. (For a breakdown of Canada's road network by province, see Transport Canada's Annual Report homepage at www.tc.gc.ca. See Table A7-1 in the Addendum.)

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

The trucking industry is made up of for-hire carriers, private carriers, owner-operators and courier firms. In 2002, it generated an estimated $51.1 billion in revenues.

A number of factors can be used to differentiate trucking firms: the size of their fleet of trucks; the type of equipment they use; the geographic coverage of their operations; the type of services they offer; and the type of freight they carry. Trucking operations can also be differentiated along jurisdictional lines. Carriers that provide interprovincial or international (extraprovincial) trucking services fall entirely within federal jurisdiction; carriers that operate entirely within a province fall under provincial jurisdiction.

For-hire motor carriers are in business expressly to haul freight for other people for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a combination of both. For-hire trucking services can be further categorized according to the types of freight carried, such as general freight services, household goods services, liquid and dry bulk services, forest products services and specialized freight services (see Table 7-1). In 2002, there were approximately 9,710 for-hire motor carriers in Canada, compared with 9,700 in 2001.

The top ten for-hire trucking companies,[1] based on total number of vehicles (tractors/trailers) in Canada, are: TransForce Income Fund, Montreal (8,100 vehicles); Trimac Transportation Services, Calgary (7,202 vehicles); Vitran Corporation, Toronto (6,126 vehicles); TransX, Winnipeg (4,377 vehicles); SLH Transport, Kingston, Ontario (4,310 vehicles); Challenger Motor Freight, Cambridge, Ontario (4,248 vehicles); Robert Transport / Groupe Robert, Boucherville, Quebec (4,109 vehicles); Mullen Transportation Inc., Aldersyde, Alberta (4,072 vehicles); Paul's Hauling Group, Winnipeg (3,795 vehicles); and Day & Ross Transportation Group, Hartland, New Brunswick (3,357 vehicles).

There were fewer acquisitions, strategic alliances and mergers of motor carriers reported in 2003 than in previous years. The most notable had to do with Clarke Inc., one of Canada's largest for-hire carriers and logistics providers, which sold its Concord Transportation subsidiary to ATS Andlauer Transportation Services Inc. of Toronto. In return, Clarke was to get 30 per cent ownership in ATS. Concord offers expedited LTL, TL and specialized logistics services across North America, with extensive U.S. coverage. TransForce Income Fund (Montreal), Canada's largest for-hire trucking operation, purchased Calgary-based Canadian Freightways as part of the liquidation of its bankrupt U.S.-based parent, Consolidated Freightways. Canadian Freightways' operations in Canada and the United States include LTL, TL, sufferance warehouses, customs brokerage, international freight forwarding, fleet management and logistics management.

Owner-operators are small independent for-hire operators who own and drive their own truck and who haul trailers for other carriers or even directly for a shipper. The use of owner operators allows trucking companies to expand or contract capacity as market conditions change. There were approximately 36,035 owner-operators in Canada in 2002, compared with 36,000 in 2000.

Couriers and parcel-delivery firms are included as part of trucking activity because they operate trucks and because they provide services that compete with those provided by for-hire carriers. However, the number of trucks used in the courier industry is relatively small — approximately 2,000 — as most companies use small cube vans, automobiles and even bicycles for deliveries.[2] Operations include overnight or later delivery and same-day messenger delivery. In 2002, the courier industry generated an estimated $5.4 billion on average volumes of 2.1 million packages per day. There are approximately 17,200 small courier companies that generate revenues less than $1 million annually. Although these small companies account for 97 per cent of the total number of courier companies, they account for only 14 per cent of total courier revenues. Many of these companies now do what the first trucking companies did — either distribute small shipments from a few large shippers to many consignees spread out over a delivery territory or collect small shipments and deliver them to one consignee.

1 Source: *Today's Trucking*, March 2003.

2 The 2,000 trucks refers to large trucks as defined by the National Safety Code vehicles with a gross vehicle weight exceeding 4,500 kg. Only very large courier companies use trucks of this size, which includes straight trucks and tractors. Most of the 17,200 courier companies are small local companies that use smaller step, cube and cargo vans, or cars/station wagons. These vehicles are not "trucks" by definition or for the purposes of comparison with the other sectors. In the year 2000, it was estimated there were a total of 24,700 vehicles involved in the pickup and delivery of courier shipments in Canada.

Private trucking is the term used to designate that part of the industry not accounted for by the for-hire segment of the trucking industry. It includes companies that primarily haul their own freight but that may, from time to time, haul other people's goods for compensation. Because these trucks are operated by someone working for an industry other than for-hire trucking, the value of the service provided is captured under some other, non-trucking sector within the National Accounts System (e.g. farming or manufacturing). Most companies that own trucks to haul their own products do not ordinarily record revenues for this operation. So the estimate of $23 billion in revenues for private trucking is derived from the estimated operating costs of trucks for these companies. Private trucking activities take place mainly in urban and local areas but are significantly less prevalent in longer-haul markets.

The use of trucks to haul freight not for commercial purposes includes, for example, a construction company using trucks and trailers to transport heavy machinery from job site to job site. Governments operate truck fleets and various other vehicles on roads for specific and unique needs such as tree trimming, snow-plowing and repairing infrastructure.

The number of bankruptcies in the trucking industry generally follows the pattern observed for the economy as a whole. In 2003, the number of trucking bankruptcies decreased for the second year in a row, a nine per cent drop from 2002. Bankruptcies dropped in every region in Canada with the exception of British Columbia and the Territories. See Table A7-2 in the Addendum for more on bankruptcies in the trucking industry.

Table 7-1 compares the revenues of large for-hire trucking firms by the type of freight carried. General freight carriers continue to dominate the for-hire sector, accounting for 62 per cent of for-hire revenues in 2002. The specialized freight category is next in importance with 16 per cent.

TABLE 7-1: FOR-HIRE CARRIER REVENUES BY MARKET SEGMENT, 2000 – 2002

	Revenues (Millions of dollars)			*Per cent of Total*		
	2000	*2001*	*2002*	*2000*	*2001*	*2002*
General freight	12,092.3	12,761.8	12,803.7	62.1	60.8	62.1
Other specialized freight	3,002.8	3,456.3	3,329.4	15.4	16.5	16.1
Liquid bulk	1,640.2	1,654.5	1,776.5	8.4	7.9	8.6
Dry bulk	1,138.8	1,470.8	1,159.8	5.8	7.0	5.6
Forest products	889.4	1,030.2	948.6	4.6	4.9	4.6
Movers	532.5	705.6	629.1	3.1	3.6	3.0
Total	**19,469.0**	**21,002.8**	**20,617.8**	**100.0**	**100.0**	**100.0**

Note: "Other specialized freight" includes motor vehicles, heavy machinery, agricultural, live animals and other commodities carriers.

Source: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF), 2000 – 2002.

Table 7-2 shows total for-hire trucking revenues by size of carrier from 2000 to 2002, as measured by four categories of annual revenues: $25 million or more; $12 million to $25 million; $1 million to $12 million; and less than $1 million. Although total revenues have more than doubled since 1991, the proportion of revenues in each of the four categories has remained relatively stable.

Class 8 trucks have seen yearly fluctuations in reported sales, which has been driven by a number of factors, including the profitability of carriers, the demand for trucking services and carriers' fleet replacement policies. The demand for many trucking services tends to increase or decrease with market conditions (the economy as a whole or certain segments of the economy), and the swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the economic slowdown in both Canada and the United States in 2001, truck sales increased by 10.5 per cent in 2002 and a further 10.8 per cent in 2003, after declining in 2000 and in 2001.

TABLE 7-2: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2002

	Small Carriers (Less than $1 million)		*Medium Carriers ($1 – 12 million)*		*Large Carriers ($12 – 25 million)*		*Top Carriers (Over $25 million)*		*Grand Total*
Year	*Revenues (Millions of dollars)*	*Share (per cent of total)*	*Revenues (Millions of dollars)*	*Share (per cent of total)*	*Revenues (Millions of dollars)*	*Share (per cent of total)*	*Revenues (Millions of dollars)*	*Share (per cent of total)*	*Revenues (Millions of dollars)*
2000	2,633.6	11.9	8,246.4	37.3	4,660.5	21.1	6,562.2	29.7	22,102.7
2001	2,750.0	11.6	9,834.3	41.4	4,506.4	19.0	6,662.1	28.0	23,752.8
2002	2,800.0	12.0	8,667.3	37.0	5,091.3	21.7	6,859.2	29.3	23,417.8

Note: Including motor for-hire carriers of freight earning annual revenues of $30,000 or more. 2001 and 2002 small for-hire carriers data estimated.

Source: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF) 2000-2002; Statistics Canada, Annual Motor Carriers of Freight Survey of Small For-Hire Carriers and Owner Operators.

Figure 7-1 charts the trends in sales of Class 8 trucks in Canada from 1990 to 2003.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2003

Source: Canadian Vehicle Manufacturers' Association

Bus Industry

The Canadian bus industry can be divided into four main sectors[3]: intercity, charter/tour, school and transit. Traditionally, the main characteristic distinguishing intercity and charter operators from the other bus sectors had been the use of motor coaches (as opposed to school or transit buses). The school, intercity and charter/tour sectors are closely interrelated, and corporate ownership cuts across sectoral lines. Carriers in all sectors and of all sizes often offer a mix of services.

Scheduled Intercity Bus Carriers – These carriers primarily operate scheduled services between two or more urban areas. Such services link all Canadian provinces and territories except Nunavut. Laidlaw is the largest scheduled intercity operator in Canada, through its ownership of Greyhound, Grey Goose, Voyageur Colonial, Penetang-Midland Coach Lines and a few other smaller companies. Other major operators include Coach Canada, Orleans Express, SMT/Acadian Lines and Saskatchewan Transportation. Smaller regional operators include Ontario Northland, Les Autobus Maheux, Intercar and DRL. Almost all scheduled intercity operators provide at least some charter service.

Charter/Tour Carriers – Charter service is characterized by the rental of a bus to a person or group where all passengers embark and disembark at the same point. Tour carriers primarily provide scenic and sightseeing services over fixed routes and sell individual seats. Shuttle carriers are mainly involved in providing service to airports and rail terminals. Some of the larger charter/tour carriers include Brewster Transportation & Tours, Charter Bus Lines of British Columbia, International Stage Lines Inc., Pacific Western Transportation Ltd. and Coach Canada. A single carrier frequently offers both charter and shuttle services, and it is not uncommon for carriers in this group to also provide school bus service.

School Service – As the name implies, school bus carriers provide bus service to transport students to and from school. Most school bus operators also provide some charter service. Laidlaw is the largest school bus carrier in Canada.

Urban Transit Service – All major cities in Canada have some form of public transit service. Close to 20 million people are provided with regular transit service covering 2,600 fixed routes across Canada using a mix of buses, trolley coaches, light rail vehicles and commuter rail vehicles. Municipal, federal and provincial governments provide operating and capital contributions for urban transit services. Some urban transit operators offer school bus and charter services as well as services to travellers with disabilities.

Bus Transportation

The Canadian bus industry is made up of approximately 1,700 operators that collectively move more than 1.5 billion passengers each year. In 2002, the bus industry generated more than $7.1 billion in total revenues, including government operating and capital contributions. This industry can be examined by segment (i.e. main company activity as classified under NAICS) or by service line (or service activity) provided.

Bus Segments (NAICS) – In 2002, urban transit was by far the largest sector, capturing almost 66 per cent of total industry revenues (including government contributions) or 48 per cent of total revenues (excluding government contributions). Operating and capital contributions from governments accounted for more than 52 per cent of urban transit operators' total revenues. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

3 Canada has used the North American Industrial Classification System (NAICS) since 1997. NAICS groups the bus industry under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

The school bus sector ranked second in revenues with over 20 per cent of total industry revenues, followed by intercity operators and charter/tour operators. Almost all these operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines – Over the past number of years, industry diversification, mergers and acquisitions, as well as consolidated reporting, have clouded the industry sectors, rendering the segment approach less reliable[4] in evaluating the industry. The service line approach gives a better indication of activity in the industry. Overall, the industry grew from $5.2 billion in 1995 to $7.1 billion in 2002, an average annual growth of over four per cent. This growth, however, was unevenly distributed among service lines, averaging between 3.5 per cent for parcel express delivery and seven per cent for charters, shuttle and sightseeing services, the best performance of any of the service lines during this period.

Service line revenues were somewhat higher in 2001 due to a new bus survey that captured a larger number of companies.[5] In terms of passengers carried, urban transit services (including urban transit operators and other operators offering transit services) carried 1,571 million passengers in 2002. As for intercity passengers, the 2002 total is not yet available (almost 15.2 million passengers were registered under intercity services in 2001). Table 7-3 shows bus revenues by service line from 1995 to 2002.

TABLE 7-3: BUS INDUSTRY REVENUES BY SERVICE LINE, 1995 – 2002

(Millions of dollars)

	1995	1996	1997	1998	1999	2000	2001	2002
Number of companies	878	898	877	1,110	1,062	968	1,813	1,704
Service Line								
Urban transit services	1,484	1,574	1,672	1,694	1,817	1,956	2,092	2,234
School bus transportation	864	832	826	894	915	964	1,112	1,220
Charters, shuttle and sightseeing services	318	334	316	369	352	449	469	506
Scheduled intercity services	246	248	241	240	236	271	332	329
Other passenger/ operating revenues	216	196	191	216	219	225	246	283
Parcel express delivery	79	85	79	87	88	96	98	100
Total (excluding government contributions)	**3,207**	**3,269**	**3,326**	**3,499**	**3,627**	**3,961**	**4,349**	**4,672**
Government contributions	2,036	2,056	2,137	2,386	2,562	2,271	2,355	2,424
Total	**5,243**	**5,326**	**5,463**	**5,885**	**6,189**	**6,231**	**6,703**	**7,096**

Notes: 1 From 1995 to 2000, including bus operators with annual revenues greater than $200,000.
2 From 2001 to 2002, new passenger bus and urban transit survey by Statistics Canada, including all bus companies; preliminary data for 2002.
3 Including operating and capital government contributions; government contributions for urban transit.

Source: *Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-223, and Statistics Canada, new Passenger bus and urban transit survey for 2001 and 2002; special tabulation based on VIA Rail Canada and Canadian Urban Transit Association (CUTA).*

URBAN TRANSIT

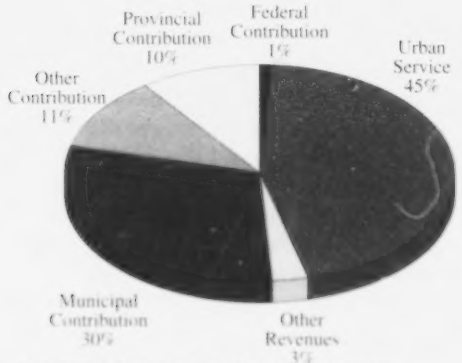
In 2002, urban transit operators reported revenues totalling $4.6 billion, up 4.8 per cent from 2001. Government contributions remained the main source of revenues, comprising 52 per cent of total urban transit revenues, followed by urban transit services with 45 per cent. From 1995 to 2002, urban transit systems' operating revenues grew at an average annual rate of 5.2 per cent, while government contributions rose at an average rate of 2.5 per cent over the same period. As a result, the government contribution's share of total urban transit revenues decreased from 57 per cent to 52 per cent over the period. Figure 7-2 shows revenue sources for urban transit operators in 2002.

In terms of passengers using urban transit, ridership levels decreased in the early 1990s to a low of 1,353 million passengers in 1996. Since then, with the exception of a small decrease in 2001, the number of passengers has increased steadily to peak at 1,537 million passengers in 2002, the highest level in the last two decades. A similar pattern existed for distance travelled by urban transit vehicles. Vehicle-kilometres jumped from 716.4 million to 857.1 million from 1996 to 2002, an average annual increase of three per cent. Figure 7-3 illustrates long-term trends in the urban transit sector from 1981 to 2002.

4 For example, from 1995 to 2000, the segment approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

5 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of $200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2002



Note: "Other" includes charter, school bus and other passenger services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data.

Since 1996, the urban transit fleet rose more than 12 per cent to a record high of 14,665 vehicles in 2002. The main change in the fleet composition over this period was the replacement of standard buses by more accessible, low-floor buses, which increased from 499 to 3,538.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1981 – 2002

Source: Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-223, special tabulation based on Canadian Urban Transit Association (CUTA) data.

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

According to the 2002 Canadian Vehicle Survey, 17.3 million light vehicles were registered in the ten provinces and three territories (data refer to in-scope vehicles with a gross weight less than 4,500 kilograms). As Table 7-4 shows, 10.4 million of these vehicles were classified as passenger cars and station wagons, 2.5 million were listed as vans, 1.3 million were classified as sport-utility vehicles (SUVs), and 3.0 million were defined as pickup trucks. As a group, light trucks and vans (including SUVs and pickup trucks) represented 39.0 per cent of the light vehicle fleet. Vans and light trucks were driven about 15 per cent more on average than passenger cars in 2002, amassing 18,100 kilometres per year versus about 15,800 kilometres for cars and station wagons. Total vehicle-kilometres driven amounted to 165 billion for cars and station wagons (57 per cent of total) and 122 billion for vans and light trucks (42 per cent). Vans and light trucks also had slightly higher vehicle occupancies than passenger cars, accounting for about 43 per cent of light-vehicle passenger-kilometres. This works out to an average occupancy of 1.65 persons per light truck or van versus 1.61 per car or station wagon.

TABLE 7-4: DISTRIBUTION OF VEHICLE ACTIVITY BY VEHICLE BODY, 2002

		Light trucks/vans					
	Car / station wagon	*Van*	*Sport-utility*	*Pickup truck*	*Subtotal*	*Other*	***Total***
Vehicles (millions)	10.4	2.5	1.3	3.0	6.7	0.1	**17.3**
Per cent share	60.3	14.2	7.4	17.3	39.0	0.7	**100.0**
Vehicle-km (billions)	164.6	43.8	23.5	54.5	121.9	3.2	**289.7**
Per cent share	56.8	15.1	8.1	18.8	42.1	1.1	**100.0**
Passenger-km (billions)	264.5	81.1	40.3	80.2	201.7	4.4	**470.6**
Per cent share	56.2	17.2	8.6	17.0	42.9	0.9	**100.0**
Litres of fuel (billions)	16.4	5.7	3.3	8.1	17.1	0.6	**34.0**
Per cent share	48.2	16.7	9.7	23.8	50.2	1.7	**100.0**
Average distance driven (thousands of kilometres)	15.8	17.8	18.3	18.2	18.1	27.6	**16.8**
Persons per vehicle	1.61	1.85	1.71	1.47	1.65	1.39	**1.62**
Fuel efficiency (L/100km)	10.0	12.9	14.1	14.8	14.0	17.9	**11.7**

Note: Figures exclude the Territories. Some totals may not add up due to rounding.

Source: Canadian Vehicle Survey 2002 and Transport Canada calculations.

There was a wide gap in fuel efficiency between cars and the heavier trucks and vans. For cars and station wagons, the calculated fuel efficiency averaged about 10 litres per 100 kilometres. This was about 30 per cent lower (i.e. used less fuel) than the corresponding consumption rate of 14 litres per 100 kilometres for vans and light trucks.

As Table 7-5 shows, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory in 2002 broadly followed the distribution of population, with few exceptions. In terms of motorization (number of vehicles per capita), most jurisdictions were close to the national average of about 550 vehicles per 1,000 people. Alberta and Saskatchewan were exceptions, as their rates were more than 10 per cent higher, as was Newfoundland and Labrador, whose rate was 15 per cent lower. Annual average vehicle use was nearly 17,000 kilometres nationally, ranging from fewer than 14,000 kilometres per year in the Northwest Territories and Nunavut and about 14,500 in Newfoundland/Labrador and Manitoba to a high of 19,000 in Nova Scotia and New Brunswick. Average vehicle occupancies in the provinces/territories stayed close to the national average of 1.6 persons per vehicle. Average light-vehicle fuel efficiency showed little variation across jurisdictions. With the exception of Alberta, which had an average fuel efficiency more than 15 per cent higher than the national average, each jurisdiction had a fuel efficiency ratio about five per cent above or below the national average.

TABLE 7-5: FUEL EFFICIENCY OF LIGHT VEHICLES, 2002

					Averages			
	Vehicles (Thousands)	*Vehicle-kilometres (Billions)*	*Passenger-kilometres (Billions)*	*Litres of fuel purchased (Billions)*	*Vehicles per 1,000 population*	*Annual distance driven (Thousands)*	*Passengers per vehicle*	*Average fuel efficiency (L/100km)*
Newfoundland and Labrador	246	3.6	6.6	0.4	475	14.5	1.8	12.4
Prince Edward Island	72	1.1	2.3	0.1	526	17.9	1.7	11.2
Nova Scotia	514	9.7	16.3	1.0	550	19.0	1.7	10.4
New Brunswick	437	8.3	14.4	1.0	583	18.9	1.7	12.2
Quebec	4,000	65.7	101.8	8.0	537	16.4	1.5	12.2
Ontario	6,458	113.4	180.0	12.3	534	17.6	1.6	10.8
Manitoba	598	8.7	15.2	1.1	518	14.5	1.7	12.3
Saskatchewan	624	9.9	18.4	1.1	627	15.9	1.9	11.3
Alberta	2,045	32.6	55.7	4.5	652	16.0	1.7	13.7
British Columbia	2,259	36.4	59.9	4.5	549	16.1	1.6	12.2
Yukon	23	0.4	N/A	N/A	761	15.8	N/A	N/A
Northwest Territories	19	0.3	N/A	N/A	464	13.8	N/A	N/A
Nunavut	3	0.04	N/A	N/A	99	12.3	N/A	N/A
Canada	**17,299**	**290.3**	**470.6**	**34.0**	**552**	**16.8**	**1.6**	**11.7**
Percentage distribution		**Percentage distribution**				**Percentage of national average**		
Newfoundland and Labrador	1.4	1.2	1.4	1.3	86.0	86.3	114.1	106.2
Prince Edward Island	0.4	0.4	0.5	0.4	95.3	106.4	108.0	95.4
Nova Scotia	3.0	3.4	3.5	3.0	99.7	113.0	103.5	88.5
New Brunswick	2.5	2.8	3.1	3.0	105.7	112.5	107.4	104.1
Quebec	23.1	22.6	21.6	23.6	97.4	97.9	95.5	104.1
Ontario	37.3	39.1	38.3	36.1	96.8	104.7	97.9	92.3
Manitoba	3.5	3.0	3.2	3.1	93.8	86.6	107.8	104.7
Saskatchewan	3.6	3.4	3.9	3.4	113.7	94.8	114.6	98.2
Alberta	11.8	11.2	11.8	13.1	119.0	95.1	105.4	116.7
British Columbia	13.1	12.5	12.7	13.1	99.5	96.1	101.4	104.5
Yukon	0.1	0.1	N/A	N/A	137.9	93.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	84.1	82.1	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.0	73.3	N/A	N/A
Canada	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Some totals may not add up due to rounding.

Due to both sampling variability in the Insurance Vehicle and 2002 gas fuel estimates, a 95 per cent confidence interval for average fuel efficiency for Canada should be used with caution.

Source: Canadian Vehicle Survey (2002) and Transport Canada, calculations.

TABLE 7-6: CANADA'S HEAVY TRUCK FLEET, 2002

	Vehicles (Thousands)		Vehicle-kilometres (Millions)		Percentage distribution			
					Vehicles		Vehicle-kilometres	
	Medium	Heavy	Medium	Heavy	Medium	Heavy	Medium	Heavy
Newfoundland and Labrador	3.5	2.8	58	158	1.1	1.1	1.1	0.9
Prince Edward Island	1.6	2.5	9	32	0.5	0.9	0.2	0.2
Nova Scotia	7.3	6.9	139	446	2.3	2.6	2.6	2.5
New Brunswick	5.6	3.3	113	97	1.8	1.2	2.1	0.5
Quebec	50.5	35.1	1,168	3,942	16.0	13.1	21.5	21.7
Ontario	68.7	102.2	1,624	7,925	21.8	38.1	29.8	43.6
Manitoba	9.2	12.6	166	1,128	2.9	4.7	3.0	6.2
Saskatchewan	37.0	22.2	161	1,005	11.7	8.3	3.0	5.5
Alberta	77.9	64.8	1,131	2,905	24.7	24.1	20.8	16.0
British Columbia	52.3	13.5	854	349	16.6	5.0	15.7	1.9
Yukon	0.9	1.1	12	94	0.3	0.4	0.2	0.5
Northwest Territories	0.5	1.1	6	81	0.2	0.4	0.1	0.4
Nunavut	0.2	0.2	1	5	0.06	0.07	0.01	0.03
Canada	**315.4**	**268.4**	**5,440**	**18,167**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Some totals may not add up due to rounding.

Source: *Canadian Vehicle Survey: 2002 and Transport Canada calculations.*

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET

The Canadian Vehicle Survey also provides information on the heavy truck fleet and its use characteristics (see Table 7-6). In 2002, more than 580,000 trucks were registered with a gross vehicle weight of at least 4,500 kilograms. This fleet was split between 315,000 medium trucks, weighing between 4,500 kilograms and 15,000 kilograms, and 268,000 heavy or Class 8 trucks, weighing more than 15,000 kilograms. Three quarters of the Class 8 heavy truck fleet were concentrated in only three provinces (Ontario with 38 per cent, Alberta with 24 per cent and Quebec with 13 per cent), while about 90 per cent of the medium truck fleet was concentrated in five provinces (Ontario, Alberta, British Columbia, Quebec and Saskatchewan). The distribution of vehicle-kilometres tilted heavily in favour of heavy trucks, at more than 18 billion in 2002 versus fewer than 5.5 billion for medium trucks. The distribution of heavy truck vehicle-kilometres was even more concentrated, as Ontario, Alberta and Quebec combined to account for more than 80 per cent of the kilometres driven.

Given similar numbers of trucks and a huge difference in vehicle-kilometres, it was no surprise that average distance driven per truck in 2002 was much greater for heavy trucks than for medium trucks. On average, heavy trucks were driven nearly 68,000 kilometres per year, almost four times more than the 17,000 kilometres that medium trucks were driven. By province, the variation in average distance driven by heavy trucks was also substantial, ranging from a low of 12,000 kilometres per vehicle in Prince Edward Island to more than 100,000 per vehicle in Quebec. Medium truck use across jurisdiction also showed a wide variation, from a low of only 4,000 kilometres in Saskatchewan to more than 23,000 in Quebec and Ontario.

HEAVY TRUCK VEHICLE CONFIGURATION

Table 7-7 provides a different perspective on the medium/heavy truck fleet based on truck configuration. The majority of trucks were classified as straight trucks (i.e. the power unit and the cargo area are combined in a single chassis), with 300,000 registered in the ten provinces. About 170,000 trucks were classified as tractor-trailers (i.e. the power unit pulls the cargo area in a separate trailer). The balance, about 110,000 vehicles, were classified as buses and other vehicles. While

TABLE 7-7: HEAVY TRUCK STATISTICS, BY CONFIGURATION, 2002

	Vehicles (Thousands)	Share	Vehicle-km (Billions)	Share	Fuel (litres) (Billions)	Share	Average distance driven (Thousands of kilometres)	Fuel efficiency (Litres/100km)
Straight truck	300	51.7	5.8	25.0	2.0	22.7	19.5	33.7
Tractor trailer	170	29.4	15.5	66.3	6.2	71.8	91.2	40.2
Bus/other	110	18.9	2.0	8.7	0.5	5.5	18.5	23.7
Heavy trucks	580	100.0	23.4	100.0	8.7	100.0	40.4	37.1

Note: Figures exclude the Territories. Some totals may not add up due to rounding.
Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: *Canadian Vehicle Survey: 2002 and Transport Canada calculations.*

tractor-trailer combinations accounted for just 30 per cent of the fleet, they accounted for two thirds of the truck vehicle-kilometres, or 15.5 billion. Once again, this pattern was owing to the massive difference in average distance driven per vehicle. Straight trucks were driven fewer than 20,000 kilometres per year, while tractor-trailers were driven more than 90,000 kilometres per year.

Table 7-8 provides further detail on heavy truck vehicle configurations. Medium trucks were characterized by the straight truck configuration, with about 80 per cent of the kilometres driven using this format. Heavy trucks were dominated by various tractor-trailer combinations, with the most popular being a tractor and one trailer (the conventional 18 wheeler), which accounted for nearly 70 per cent of the heavy truck vehicle-kilometres. Straight trucks performed just under 18 per cent of the heavy truck vehicle-kilometres.

TABLE 7-8: VEHICLE-KILOMETRES DRIVEN BY TYPE OF VEHICLE CONFIGURATION, 2002

	Medium *(Per cent)*	*Heavy* *(Per cent)*
Straight truck	79.9	17.6
Tractor only	1.2	3.6
Tractor and 1 trailer	2.3	68.9
Tractor and 2 trailers	–	8.2
Tractor and 3 trailers	–	0.6
Other	16.6	1.2
Total	**100**	**100**

Note: Figures include the Territories. Some totals may not add up due to rounding.
Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: Canadian Vehicle Survey 2002 and Statistics Canada calculations.

Medium trucks were put to various uses, with 57 per cent of the vehicle-kilometres taken up with carrying goods or equipment, a traditional freight-hauling role, while 35 per cent was devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private trucking business. Of the 5.4 billion vehicle-kilometres driven by medium trucks, about eight per cent were done empty.

Heavy truck activity was dominated by the conventional goods-hauling role, as nearly 80 per cent of the vehicle-kilometres was devoted to carrying goods or equipment. About five per cent was for other work purposes, while about 16 per cent of vehicle-kilometres was made empty.

Table 7-9 shows the typical uses of Canada's medium and heavy trucks in 2002.

TABLE 7-9: TYPICAL USE OF CANADA'S MEDIUM AND HEAVY TRUCKS, 2002

	Medium trucks		*Heavy trucks*	
	Vehicle-km (Billions)	*Share (Per cent)*	*Vehicle-km (Billions)*	*Share (Per cent)*
Carrying goods/ equipment	3.1	57	14.2	79
Empty	0.4	8	2.9	16
Other work purpose	1.9	35	0.9	5
Total	**5.4**	**100**	**18.0**	**100**

Note: Figures include the Territories. Some totals may not add up due to rounding.
Data refer to all trucks with a gross vehicle weight of at least 4,500 kg.

Source: Canadian Vehicle Survey 2002 and Statistics Canada calculations.

Truck Traffic by Sector

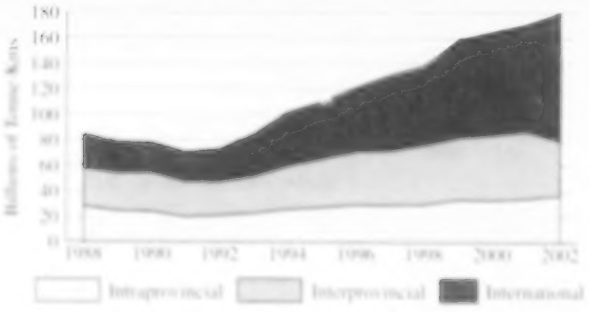
After a slowdown due to the 1990-91 recession, for-hire truck[6] traffic jumped from 72.9 to 177.2 billion tonne-kilometres over the 1992 – 2002 period. The transborder sector dominated, with an annual average growth rate of 13.6 per cent. This was more than twice the rate in domestic trucking activities, which was 6.2 per cent. Domestic trucking activities include intraprovincial and interprovincial activities, which grew at rates of five and nearly seven per cent a year, respectively.

In terms of value, about 66 per cent of Canada–U.S. trade moved by truck in 2002. Commodities shipped by truck from/to the United States totalled $372 billion, with exports accounting for $197 billion of this. Preliminary 2003 trade data (11 months) show a decrease of 10 per cent in the value of cargo carried by truck from/to the United States. A contributing factor to the decreasing growth in transborder traffic in 2003 was a sluggish U.S. economy for most of 2003 combined with an appreciation of the Canadian dollar, which has made Canadian goods relatively more expensive to American consumers.

6. Including Canadian domiciled long distance for-hire trucking firms with annual operating revenues of $1 million or more.

Figure 7-4 illustrates the growth of Canadian for-hire trucking traffic between 1988 and 2002. Table A7-8 in the Addendum provides the data in a tabular form.

FIGURE 7-4: TOTAL FOR-HIRE TRUCKING TRAFFIC IN ANNUAL TONNE-KILOMETRES, 1988 – 2002



Commodities and Trucking Flows

In 2002, domestic and transborder for-hire trucking traffic by Canadian firms generated revenues of $8.3 billion and $7.3 billion, respectively. About 81 per cent of transport revenues were attributable to six groups of commodities: manufactured products (25 per cent), food products (17 per cent), forest products (13 per cent), metal and steel products (10 per cent), automobile and transport products (eight per cent) and plastic/chemical products (eight per cent). In terms of volume, measured in tonne-kilometres, the same six commodities also dominated in the same proportion (i.e. 81 per cent of the total).

Ontario dominated in all market segments, with 36 per cent of intraprovincial trucking traffic, 33 per cent of interprovincial trucking traffic and 44 per cent of total transborder traffic hauled by trucks. At the interprovincial level, the largest movements were between Ontario and Quebec (12.4 billion tonne-kilometres), representing almost 24 per cent of total interprovincial trade by for-hire trucks in volume. At the transborder level, the heaviest traffic flows involved those between Ontario and the U.S. central region (18.4 billion tonne-kilometres) and between Ontario and the U.S. southern region (11.4 billion tonne-kilometres). For additional information on volume and trucking flows, see tables A7-9 to A7-11 in the Addendum.

Canada–U.S. Border Crossing Activity

Heavy truck activity across the Canada–U.S. border shrank two per cent in 2003, falling back to the 2001 level of 13 million two-way trips. This is the third straight year of steady or no growth in crossing activity since the peak of 13.6 million trips in 2000. The levelling off of activity reflects continuing weakness in the U.S. economy, which reduces the demand for freight transportation. At 60.1 million trips, car crossings were off another six per cent from 2002, the lowest level since 1986. For further details on border activity by border crossing, see the Transport Canada Annual Report homepage at www.tc.gc.ca. See Addendum tables A7-12 and A7-13.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

Trucking Industry

In 2002, the revenues of trucking firms fell by one per cent, the first drop since 1991. However, from 1996 to 2002, industry revenues grew at an average annual rate of 6.8 per cent. From 1996 to 1999, trucking rates increased marginally. Since then they have grown by 2.8 per cent annually. Output rose at a robust annual rate of 4.7 per cent between 1996 and 2002. Both domestic and transborder traffic fell in 2002, the former by 5.8 per cent, the latter by 2.9 per cent. The drop in transborder activity in 2002 compares with double digit growth recorded in previous years.

Total factor productivity in the trucking industry fell by 1.8 per cent in 2002. This reduced annual productivity gains to less than one per cent over the 1996 – 2002 period. Unit costs rose by 3.1 per cent in 2002; the increase averaged 1.2 per cent a year between 1996 and 2002.

In 2002, the average industry operating ratio continued to improve, reaching 93.9 per cent. Every year since 1997, the industry has posted financial returns compatible with its long-term viability.

Large trucking carriers maintained their profitability in the first three quarters of 2003.

URBAN TRANSIT SYSTEMS

In 2002, carriers' revenues (excluding subsidies) for urban transit services rose by seven per cent. Part of this increase can be attributed to the recovery of British Columbia transit revenues after the 2001 strike. Excluding this province, transit revenues would still have grown by 3.1 per cent. Traffic increased in 2002 by 4.7 per cent overall and by 2.1 per cent without British Columbia. Transit prices rose by 2.9 per cent, or 1.9 per cent in real terms, a pace similar to long-term trends. Between 1996 and 2002, prices increased by 2.4 per cent a year while output grew by 2.8 per cent a year.

Transit systems are among the most labour- and capital-intensive of all transport industries, with respective shares of the two inputs at 48 and 29 per cent of total costs. The cost structure of the industry was stable until 2001. In 2002, the share of labour, fuel and capital in total costs was affected by the 20 per cent jump in the share of other materials and services.

In 2002, total factor productivity of transit systems fell by 3.7 per cent. Rises in fuel and capital efficiency were not sufficient to offset productivity declines in labour and other variable production factors, the latter being explained by the relative cost increase of other materials and services.

Transit costs per unit of output rose by 4.8 per cent. Over the last three years, unit costs have increased by 10 per cent, compared with a 0.7 per cent decrease between 1996 and 1999.

In 2002, the total cost of transit systems was estimated at $4.9 billion. After decreasing steadily since 1996 to 46 per cent in 2001, cost recovery increased marginally in 2002. Annual operating subsidies rose to $1.6 billion, $103 million more than the average of the previous three years. Capital subsidies of $766 million were in line with the last three-year averages.

Ontario continued to achieve the highest cost recovery but only because it charged the highest fares (per kilometre) in Canada. Alberta and British Columbia had the lowest cost recovery, the former due to the lowest fares of all regions, the latter to the highest unit costs in the country. In Quebec, the revenue shortfalls were smaller than the Canadian average, despite lower fares. Table 7-10 provides details on the performance of transit systems by region.

TABLE 7-10: SELECTED PROVINCIAL SYSTEMS INDICATORS, 2002

	Quebec	*Ontario*	*Alberta*	*B.C.*	*Canada*
Price levels (Canada = 100)	84.6	118.4	73.2	95.0	100.0
Total unit cost (Canada = 100)	88.1	110.0	93.4	105.6	100.0
Cost recovery (in %)	42.7	47.9	34.9	40.1	44.5
Revenue shortfall per passenger ($)	1.58	1.89	2.11	2.46	1.78

Source: Transport Canada, Annual Urban Transit Statistics and CUTA calculations

MARINE TRANSPORTATION 8

The volume of marine traffic generated by Canada increased in 2002, resulting from increases in both domestic and transborder flows.

MAJOR EVENTS IN 2003

Legislative and Regulatory Changes and Initiatives

Canada Shipping Act, 2001 Regulatory Reform

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. The regulations to be in place for the Act to be implemented are being dealt with in two phases: the reform and streamlining of more than 100 existing regulations into 30, and the modernization of the remaining regulations consistent with the new Act. The proposed regulations will not apply to operators of non-motorized and/or inflatable-hulled vessels, which are used mainly in the adventure tourism industry. They will also not apply to the international carriage of passengers.

In the fall of 2003, consultations on regulatory reform were initiated. All Canadians were invited to participate in open meetings in six regional centres or on the Internet at www.cmac-ccmc.gc.ca under "Public Consultations on Regulatory Reform – Phase I Regulations." The consultations focused on eight topics: collision prevention; ballast water management; marine personnel; administrative monetary penalties; boating restriction; aids to navigation protection; prevention of pollution from vessels; and vessel clearance.

The regulatory reform project is proceeding in a two-phased approach. More than 50 existing regulations will be overhauled into 17 regulations in Phase I, and approximately 35 regulations will be overhauled into 11 in Phase II. Phase I focuses on the regulations that are needed to bring into force the *Canada Shipping Act, 2001*. Phase 2 will concentrate on the existing regulations that are consistent with the CSA 2001. Generally, these regulations need only to be updated and modernized and not overhauled as those in Phase I.

For more information on the regulatory reform and safety regime initiatives, including the new Marine Safety Strategic Plan 2003 – 2010, visit www.tc.gc.ca/marine/menu.htm.

Marine Liability Act

Compulsory insurance for commercial passenger vessels

On August 8, 2001, the Government of Canada enacted the *Marine Liability Act* (MLA) under Chapter 6 of the Statutes of Canada. This Act consolidated various maritime liability regimes, including those for passengers, goods and pollution.

In early 2003, Transport Canada began consultations on the results of an independent report detailing recommendations for developing a compulsory insurance regime for vessels that carry passengers for commercial or public purposes, as per Section 39, Part 4 of the MLA. Based on the report's contents and resulting industry feedback, Transport Canada announced its position on the development of a compulsory insurance regime in August 2003 and is proceeding to develop regulations along these lines.

Amendment of Shipowner's liability limits for oil pollution spills

Part 6 of the *Marine Liability Act* establishes Canada's system of liability and compensation for oil pollution caused by spills from tankers. This system is based on two international conventions, the International Convention on Civil Liability for Bunker Oil Pollution Damage, 1992 (CLC) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992 (IOPC). In 2000, amendments to these conventions agreed to by the International Maritime Organization (IMO) increased liability limits in both the CLC and IOPC from about $270 million to $400 million per incident. In accordance with these amendments, Canada brought the new limits into force on November 1, 2003, through legislative changes to the MLA. As a result, claimants affected by any pollution damage in Canadian waters will now benefit from this new compensation package.

Ship Source Pollution Prevention — Through co-operative efforts between Transport Canada, Environment Canada and the Department of Fisheries and Oceans, a variety of issues are being addressed. These include actions to: accelerate the phase-out of single-hulled tankers; eliminate sub-standard ships; introduce a "green ship" program for Canada; seek higher penalties from the courts for ship-source pollution; optimize surveillance and enforcement efforts; and investigate improvements to the provision of shore waste reception facilities. With the introduction of new regulations under the CSA 2001, the existing provisions for sewage and air pollution will be expanded, provisions for garbage will be updated, and new requirements will be introduced for anti-fouling systems and ballast water discharges.

Supplementary Fund Protocol

In May 2003, the International Maritime Organization adopted a Protocol to the 1992 Fund Convention. The Protocol establishes a voluntary Supplementary Fund that provides a third layer of compensation for claimants of oil pollution damages in states that ratify the Protocol. Claimants in these states will now be entitled to receive greater compensation, a maximum of $1.5 billion per incident, almost four times the current level of $400 million. Future adoption of this Protocol by Canada will be subject to national consultations in 2004 to be followed by a Cabinet decision on ratification. Currently, Transport Canada is preparing a discussion paper to be used in these consultations.

Canada Marine Act Review

On June 4, 2003, the Minister of Transport released the *Canada Marine Act* (CMA) Review Panel's report. The report is part of the Government of Canada's review of the CMA launched in 2002, as prescribed by legislation.

The CMA streamlined marine legislation related to services provided by the federal government in the marine sector, allowed the establishment of Canada Port Authorities and the continued divestiture of certain harbour beds and port facilities, and facilitated the commercialization of the St. Lawrence Seaway. It also contained provisions for further commercializing federal ferry services and for pilotage authorities' operations.

Transport Canada is assessing the CMA Review Panel's recommendations and observations. In 2003, Transport Canada undertook several studies to evaluate market challenges, competitiveness and marine industry benefits both on the national and international fronts. These and other studies of significance to the marine industry will continue in 2004 in support of the CMA Review. Transport Canada will use the results of these studies — in conjunction with its assessment of the recommendations and observations and with other major policy directions — to help develop amendments to the CMA and, where appropriate, choose alternative mechanisms in order to promote a more efficient and effective marine industry.

INFRASTRUCTURE

Canada's Ports and Harbours System

Canada's ports and harbours play a crucial role in linking economic activities to markets that otherwise would not be accessible. As they are linked to both the rail and road networks, Canada's major ports are vital gateways in the national transportation system.

A plan to reorganize Canada's ports system was initiated in December 1995, following the announcement of the National Marine Policy. The federal government has since implemented a restructuring process to commercialize marine infrastructure. In order to facilitate this process, the National Marine Policy, which has been realized through the *Canada Marine Act*, specifies three categories of ports: (1) Canada Port Authorities (CPAs), (2) regional/local ports, and (3) remote ports.

The National Marine Policy acknowledges 19 major Canadian ports as Canada Port Authorities. These independently managed ports are essential links to Canada's domestic and international trade. The 19 CPAs are Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. They include former Canada Ports Corporation's major divisional ports as well as former harbour commissions.

Regional/local ports make up the majority of Transport Canada-owned ports and are slated for transfer under the Port Divestiture Program. These ports range from those that sustain a high volume of regional and local traffic to smaller ports that support little or no commercial activity. In accordance with the Port Divestiture Program, the federal government's operational and ownership interests in regional/local ports are being terminated by transferring these ports to other federal departments, provincial governments or local interests, including municipal authorities, community organizations or private interests.

Transport Canada also continues to administer remote ports that serve as the primary transportation portals for isolated communities. These port facilities will remain under the control and administration of Transport Canada unless local stakeholders express a willingness to assume ownership of them.

Port Divestiture

The Port Divestiture that was originally scheduled to end on March 31, 2002, has been extended by Cabinet until March 31, 2006. Accordingly, Transport Canada will continue to transfer ownership and operations to regional/local ports. By giving local communities more control over port operations, the federal government is modernizing Canada's marine system by instilling commercial discipline and efficiency in the marine sector. This will ultimately contribute to the development of a more effective and efficient port system with local accountability. The greater autonomy afforded to ports will further allow a more effective application of business principles while promoting employment and economic growth. Once ports have been transferred, Transport Canada ends its operational role, which includes the direct enforcement of regulations, collection of user fees, and the monitoring of port operations.

Of the 549 public ports and port facilities originally under Transport Canada's control and administration before the National Marine Policy came into force, 450 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2003, 99 regional/local and remote ports and port facilities remained under Transport Canada control. Also, there are 19 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2003.

As of December 31, 2003, 216 public ports and public port facilities had been transferred: 65 sites were transferred to other federal departments, 40 to provincial governments, 56 to municipal governments and 55 to private interests. In addition, 23 sites have either been demolished or have had Transport Canada's interest terminated (through lease or licence terminations).

Overall, 268 public ports have been deproclaimed, 30 of which were adjacent to port facilities already transferred. Archival research identified a further 26 harbours in addition to the original 549 port sites identified in the National Marine Policy.

While only four remote ports were divested in 2003, 30 remote ports have been divested since 1996. As a result, Transport Canada continues to administer just 30 remote ports nation-wide (10 in Quebec, two in Ontario, one in Manitoba and 17 in British Columbia).

Financial Performance

Because audited financial statements of Canada Port Authorities for 2003 were not available for this report, results for 2002 were used. In addition, some 2001 figures have been restated to reflect changes in accounting policies as was reported in the 2002 audited financial statements. For detailed financial information, see Addendum tables A8-3 to A8-5.

In 2002, total operating revenues of CPAs were $279 million, a five per cent increase over the $266 million total of 2001. Vancouver and Montreal accounted for approximately 56 per cent of total revenues generated. Fifteen of the 19 CPAs reported an increase in revenues ranging from $0.01 million to $4.4 million, while seven reported decreases in expenditures ranging from $0.06 million to $1.5 million.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2003

	Federal	*Provincial*	*Municipal*	*Private*	*Total*
Federal Agency Ports					
Canada Port Authorities	19	N/A	N/A	N/A	**19**
Harbour Commissions	1	N/A	N/A	N/A	**1**
Ports Operated by Transport Canada					
Regional/Local	69	N/A	N/A	N/A	**69**
Remote	30	N/A	N/A	N/A	**30**
Ports Transferred[1]					
From Transport Canada	65	40	56	55	**216**
Status of other former Transport Canada Ports					
Demolished	5	N/A	N/A	N/A	**5**
Interests terminated	18	N/A	N/A	N/A	**18**
Deproclaimed[2]	211	N/A	N/A	N/A	**211**

Note: Additional detailed information on ports is presented in Tables A8-1 and A8-2 in the Addendum, including a summary of the provincial distribution of the ports administered by Transport Canada from 1996 to 2003 and a summary of the divestiture status of regional/local and remote ports on a regional basis.

N/A = Not available

1. Includes 19 sites where facilities have been transferred but harbour bed has not yet been deproclaimed, 64 sites that were transferred to the Department of Fisheries and Oceans and one site that was transferred to Health Canada.
2. Public Harbours deproclaimed in June 1996 and March 1998.

Source: Transport Canada

Vancouver and Sept-Îles reported the highest revenue increases, at $3.9 million (4.3 per cent) and $4.4 million (131 per cent), respectively. Sept-Îles had the largest percentage increase. Overall expenditures decreased $6.7 million, though 12 ports reported increases ranging from $0.04 million to $3.0 million.

The overall operating ratio for the CPAs was approximately 83 per cent in 2002, with individual ratios ranging from 38 to 128 per cent. The return on assets was five per cent. The highest return on assets was enjoyed by North Fraser (23.3 per cent), followed by Trois-Rivières (20.2 per cent) and Saguenay (14.9 per cent).

In 2002, overall net income for CPA ports decreased by $3.7 million. In contrast, 10 of the 19 ports reported increases ranging from $0.01 million to $2.6 million, for a combined increase of $5.8 million. The nine ports reporting decreases had a combined loss of $9.5 million, with ranges of $0.14 million to $4.5 million.

Tonnage for the CPAs was 215.1 million tonnes, down from 219.9 million tonnes in 2001. Five CPAs accounted for 67 per cent of total cargo by volume: Vancouver (29 per cent), Saint John (12 per cent), Sept-Îles (nine per cent), Montreal (nine per cent) and Quebec City (eight per cent). The revenue per tonne increased from $1.21 in 2001 to $1.30, while expenses per tonne increased from $0.98 to $1.03.

At public ports still under Transport Canada control, gross revenues in fiscal year 2002/03 were $13.1 million, while expenses were $19.4 million. The result was an operating revenue shortfall of $6.3 million and an operating ratio of 148 per cent. Capital expenditures in 2002/03 were $2.2 million, while $22.1 million was spent in grants and contributions for port divestiture transfers. Addendum Table A8-6 provides details.

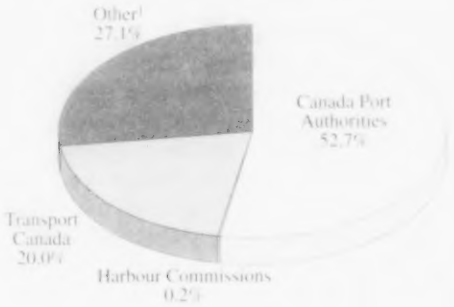
Port Traffic

Based on preliminary data provided by Statistics Canada (available only up to 2002), Canada's ports handled 407 million tonnes of cargo in 2002, an increase of approximately 3.79 per cent from 2001.

Figure 8-1 shows traffic shares by port groups in 2002, based on port classification as of December 31, 2002.

The following data show the actual traffic (cargo handled) at some CPAs in 2002: Halifax, 12.9 million tonnes; Montreal, 18.3 million tonnes; Prince Rupert, 4.4 million tonnes; Quebec, 17.9 million tonnes; Saguenay, 0.434 million tonnes; Saint John, 25.2 million tonnes; Sept-Îles, 20.1 million tonnes; Thunder Bay, 8.2 million tonnes; Toronto, 1.6 million tonnes; Vancouver, 63.2 million tonnes; and Fraser River, 12.5 million tonnes.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2002



1. Includes the Department of Fisheries and Oceans, provincial and municipal governments, and private facilities.

Source: Transport Canada

In 2002, CPAs handled the largest amount of port traffic, accounting for 52.7 per cent of the total. The one port still classified as a Harbour Commission as of December 31, 2002, handled less than one per cent of the total traffic, while Transport Canada facilities moved 20 per cent of the total cargo. The remaining 27.1 per cent was handled by other facilities, including those managed privately and those managed by or on behalf of the Department of Fisheries and Oceans (DFO) and provincial and municipal governments.

At those declared public ports where Transport Canada has no facilities and cargo is transported across private wharves, cargo shipments totalled 27 million tonnes, or 33 per cent of the total traffic handled by Transport Canada ports. "Other" ports handled approximately 110 million tonnes of cargo. In this category, Port Cartier, Quebec, with approximately 16.2 million tonnes, handled the most cargo, followed by Nanticoke, Ontario, which carried 14.6 million tonnes. The balance of cargo was carried by the remaining 192 ports that reported cargo tonnage to Statistics Canada. (See Addendum Table A8-7.)

Small Craft Harbours

The Department of Fisheries and Oceans currently owns 1,273 harbours across Canada. Of these, 1,023 are fishing harbours and 250 are recreational facilities. DFO's long-term objective is to retain only core active fishing harbours. About 750 are targetted to be kept in the regions. It will divest other harbours (i.e. all recreational and low-activity inactive fishing).

Fishing harbours

Since the late 1980s, a DFO program has supported the creation of local harbour authorities to manage the commercial fishing harbours in their communities. Harbour authorities are local, non-profit organizations, composed of fishers and other harbour users, that lease the harbour from DFO and that provide services, maintenance and harbour management. As of December 31, 2003, harbour authorities managed 670 sites across Canada, about 90 per cent of the DFO program target. Fishing harbours that do not generate enough community interest to form a harbour authority will be divested or, if necessary, demolished. Such harbours are usually low- or no-activity and have a negligible impact on the commercial fishing industry or the community at large. To date, 269 fishing harbours have been divested, while 86 are in the final stage of divestiture.

Table 8-2 reports the fishing harbours remaining in the DFO portfolio as of December 31, 2003, by region and type of management.

TABLE 8-2: DFO FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2003

	Harbour Authorities	*Small Craft Harbours*	*Total by Region*
British Columbia and the Yukon	72	76	148
Central and Arctic	31	37	68
Quebec	47	38	85
Maritimes and Gulf	283	62	345
Newfoundland and Labrador	237	140	377
Total	**670**	**353**	**1,023**

1. Totals include 47 mooring buoy sites in British Columbia.
2. There are no harbour authorities in the Northwest Territories, Nunavut or the Yukon.
(In addition, there are no harbour authorities in Saskatchewan.)
3. Department of Fisheries and Oceans.

Source: *Department of Fisheries and Oceans*

Recreational Harbours

The goal of the DFO program is to divest all 845 recreational harbours in its inventory. Since 1994/95, DFO has divested 643 (or 76 per cent) of its harbours. The DFO disposal strategy, approved by Treasury Board in 1995, permits disposals at a consideration of $1.00, subject to conditions that include a requirement to maintain public access for at least five years. Prior to transfer, environmental assessments and reasonable repairs are completed to ensure that facilities are transferred in a safe and reasonable condition. Recipients are mainly municipalities, local non-profit organizations, First Nations or other federal departments. If no public body shows interest in acquiring the facilities, they are offered to the general public at market value. As a last resort, in the absence of public and private interest, the facilities are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-5 summarize, by region, the status of the DFO recreational harbour divestiture program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the remaining harbour sites in the DFO inventory (Table 8-5).

TABLE 8-4: RECIPIENTS OF DIVESTED DFO RECREATIONAL HARBOURS, AS OF DECEMBER 31, 2003

	Province	*Municipality*	*Private Sector*	*Other*[2]	*Total by Region*
British Columbia and the Yukon	50	0	1	4	55
Central and Arctic	18	194	20	54	286
Quebec	3	169	2	49	223
Maritimes and Gulf	4	19	4	51	78
Newfoundland and Labrador	0	1	0	0	1
Total	**75**	**383**	**27**	**158**	**643**

1. Title to most of these properties were subject to provincial reversionary interests.
2. "Other" in the context of the divestiture of recreational harbours refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

Source: *Department of Fisheries and Oceans*

TABLE 8-5: DFO RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF DECEMBER 31, 2003

	Managed Under Lease	*Small Craft Harbours*	*Other*[1]	*Total by Region*
British Columbia and the Yukon	2	0	8	10
Central and Arctic	108	40	12	160
Quebec	3	27	0	30
Maritimes and Gulf	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	**113**	**69**	**20**	**202**

1. "Other" refers to a variety of management and non-management situations. Some construction works, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e. a marina) and maintained as part of that development. In other cases, facilities no longer exist at the site and there is nothing to manage.
2. Remaining recreational harbours to small craft harbours inventory as of December 31, 2003.
3. Department of Fisheries and Oceans.

Source: *Department of Fisheries and Oceans*

TABLE 8-3: DFO RECREATIONAL HARBOURS DIVESTED BY REGION, AS OF DECEMBER 31, 2003

	Fully Divested 1995/2003	*Fully Divested 2003/04*	*Final Stage of Divestiture*	*Total Divested*	*Remainder to be Divested*	*Regional Total*
British Columbia and the Yukon	51	1	3	55	10	65
Central and Arctic	264	3	19	286	160	446
Quebec	192	5	25	222	30	252
Maritimes and Gulf	77	1	1	79	1	80
Newfoundland and Labrador	0	1	0	1	1	2
National Totals	**584**	**11**	**48**	**643**	**202**	**845**

Source: *Department of Fisheries and Oceans*

Marine Pilotage

In Canada, four regional pilotage authorities offer safe and efficient pilotage services: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). These pilotage authorities direct and control the navigation and/or ship handling of a vessel through coastal and inland waterways. Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

In 2003, three of the four pilotage authorities generated enough revenues to cover their expenses. These results represent a return toward a positive net income after the recent downward trend of 2000 and 2001. Table 8-6 shows the financial results for the four pilotage authorities in 2003.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2003

(Millions of dollars)

Pilotage Authority	*Revenues*	*Expenditures*	*Net Income (Loss)*
Atlantic Pilotage Authority (APA)	16,438	15,463	975
Laurentian Pilotage Authority (LPA)	47,747	47,292	455
Great Lakes Pilotage Authority (GLPA)	11,650	14,266	(2,616)
Pacific Pilotage Authority (PPA)	43,760	42,047	1,713
Total Pilotage Authorities	**119,595**	**119,068**	**527**

Source: Pilotage Authorities' Annual Reports (2003 preliminary)

The efficiency of pilotage services is commonly measured by the average number of assignments per pilot. Based on this measure, efficiency increased between 1996 and 1998 but declined afterward. The variations between the authorities and from year to year are related to traffic levels. Assignments in different regions and in different areas of the same region (e.g. the Atlantic region) require various times to complete and may be vastly different from one another. Overall, there were slightly more total assignments in 2003 than in 2002.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2003. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2003

Pilotage Authority	*Indicators*	*2003*
Atlantic (APA)	Total Assignments	12,510
	Assignments Per Pilot	223
Laurentian (LPA)	Total Assignments	19,599
	Assignments Per Pilot	114
Great Lakes (GLPA)	Total Assignments	5,943
	Assignments Per Pilot	94
Pacific (PPA)	Total Assignments	12,952
	Assignments Per Pilot	118
Total All Authorities	**Total Assignments**	**49,004**
	Assignments Per Pilot	**123**

Source: Pilotage Authorities' 2003 draft annual reports

Canadian Coast Guard

The Canadian Coast Guard (CCG) is an integral part of the Department of Fisheries and Oceans. The CCG's mission is to ensure the safe and environmentally responsible use of Canada's waters. It achieves this mission through five major activities: marine navigation services; marine communications and traffic services; icebreaking operations; rescue, safety and environmental response; and fleet management. The activities cover a range of marine programs, policies and services that deal with a broad cross-section of clients within the marine community. These clients include commercial shipping interests, recreational boaters, the fishing industry, and provincial, municipal and territorial governments, as well as other federal government departments and marine associations.

The Coast Guard also serves the general public through its role in preserving ecosystems, ensuring that water supplies remain unpolluted by oil and chemical spills, and protecting recreational resources.

The CCG's Marine Navigation Services (MNS) aim at providing safe, efficient and accessible waterways by operating and maintaining a system of navigation aids; ensuring safe and efficient use of shipping channels; ensuring the environmentally sustainable development of marine transportation; and protecting the public right to navigation.

All CCG functions associated with Marine Communications and Traffic Services (MCTS) are derived from a regulatory framework based primarily on the *Canada Shipping Act* and the Safety of Life at Sea Convention. MCTS provides distress and safety communications and coordination; vessel screening to prevent entry of unsafe vessels into Canadian waters; regulation of vessel traffic movements; and management of an integrated system of marine information and public correspondence services. Along with ensuring safe

marine navigation, MCTS also supports economic activities by optimizing traffic movements and port efficiency, and facilitating industry ship–shore communications.

Under its MCTS functions, the Coast Guard has developed installation strategies for an Automatic Identification System (AIS). This is a leading-edge marine navigation technology that allows increased surveillance of vessels with "near real-time" identification and tracking of vessels approaching and operating in Canadian waters. To improve its communications capability, MCTS implemented the Global Maritime Distress Safety System (GMDSS) on August 1, 2003, on the east and west coasts of Canada.

Following the events of September 11, 2001, as a means of enhancing public safety, security and the uninterrupted flow of commerce, the Canadian and U.S. coast guards established an advance notification requirement for vessels entering Canadian/American waters. Vessels over 300 gross tonnage inbound to Canadian waters must file an Offshore Advance Report with Canadian authorities 96 hours before entering Canadian waters from seaward.

Icebreaking Operations activities include providing icebreaking escorts, channel maintenance, flood control, harbour breakouts, and ice-routing and information services for marine traffic navigating through or around ice-covered waters and for the general public. Under its icebreaking activities, the CCG provides a wide range of services with a more client-focused, demand-driven service under which commercial users pay a percentage of allocated costs in the form of an icebreaking service fee.

The Rescue Safety and Environmental Response (RSER) business line encompasses three major activities: maritime search and rescue (SAR); environmental response; and the office of boating safety, which regulates recreational boaters, recreational boats and recreational boating activities. Its main objective is to save lives and protect the marine environment.

In 2003, the Coast Guard moved forward with the implementation of major new regulating measures to improve boating safety. These cover mandatory operator competency; age-horsepower restrictions; modernization of small vessel regulations; and search and rescue prevention and boating safety programs to reduce the number and severity of maritime incidents.

The acquisition, maintenance and scheduling of DFO's fleet and equipment required to deliver core marine services to Canadians is also part of Coast Guard's functions. This includes dealing with matters such as fleet operational requirements and planning; vessel resource allocation; resource utilization and redeployment; fleet management support; related management information systems; vessel crewing; fleet performance management and costing systems; and management roles and accountabilities.

Over the past several years, the CCG has introduced three commercial user fees: the marine navigation service fee, in June 1996; the transit-based icebreaking services fee, in 1998; and the maintenance dredging services tonnage fee, in September 1997. For more information on the CCG functions, visit www.ccg-gcc.gc.ca.

Financial Profile

Table 8-8 shows the Coast Guard's financial results for the last four fiscal years. Results for 2003/04 reflect forecast expenditures to fiscal year-end and will not be finalized until the end of the fiscal year.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2000/01 – 2003/04

(Millions of dollars)

	2000/01	*2001/02*	*2002/03*	*2003/04*
Revenue	43.4	35.5	37.0	38.2
Gross Expenditures	495.5	475.3	498.0	521.3
Net Expenditures	**452.1**	**439.8**	**461.0**	**483.1**

Source: Department of Fisheries and Oceans

In compliance with the Government of Canada's cost recovery policy, the Coast Guard has taken a number of measures to recover a portion of the costs it incurs in providing services to industry.

- In June 1996, the CCG introduced the Marine Navigation Services Fee, which is intended to collect $27.7 million annually, including administrative costs.
- In 1998, the CCG introduced a transit-based Icebreaking Services Fee, which is intended to collect $6.9 million annually, including administrative costs.

- The Maintenance Dredging Services Tonnage Fee, established in September 1997, was originally intended as an interim measure to cover the full costs that the CCG incurred in providing maintenance dredging services in the St. Lawrence Ship Channel. The Coast Guard continues to work with representatives from the commercial marine transportation industry to arrive at a long-term arrangement, inducing the transfer of responsibilities to industry for these dredging services.

Table 8-9 breaks down the Coast Guard's revenues and expenditures by its five main business lines for fiscal year 2003/04. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

TABLE 8-9: CANADIAN COAST GUARD REVENUES AND BUDGETED EXPENDITURES, 2003/04

(Millions of dollars)

	MNS	*MCTS*	*ICE*	*RSER*	*Fleet*
Revenues	29.4	0.1	13.8	0.2	0.0
Gross Expenditures	117.9	70.4	57.2	117.8	131.0
Net Expenditures	**88.5**	**70.3**	**43.4**	**117.6**	**131.0**

Note: MNS: Marine Navigation Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; RSER: Rescue, Safety and Environmental Response; CCG: Canadian Coast Guard.

Source: Department of Fisheries and Oceans.

St. Lawrence Seaway

A unique inland waterway extending into the industrial heartland of North America, the St. Lawrence Seaway serves 15 major international ports and 50 regional ports on both sides of the Canada–U.S. border.

The Seaway is made up of two main sections, the Montreal–Lake Ontario (MLO) section and the Welland Canal section. The Welland Canal section joins Lake Ontario to Lake Erie via eight locks over 42 kilometres. The MLO section joins Montreal to Lake Ontario via seven locks over 300 kilometres, five in Canada and two in the United States.

Under a 20-year Management, Operation and Maintenance Agreement with the federal government, extending to March 31, 2018, responsibility for the operations and maintenance of the navigational aspects of the Canadian Seaway resides with the St. Lawrence Seaway Management Corporation (Seaway Corporation). The Seaway Corporation is constituted as a not-for-profit corporation by Seaway users and other interested parties. Detailed cost targets have been negotiated for each of the first two five-year periods of the 20-year agreement and form part of the agreement. During the first five years, ending March 31, 2003, no government funding was required, as deficits were covered from reserve funds.

The current five-year plan (began April 1, 2003) reflects the results of intensive negotiations between Transport Canada officials and senior Seaway Corporation officers. Transport Canada was supported by a two-stage due diligence process that included financial advisors and technical engineering experts. The final proposal agreed to by the federal government and the Seaway Corporation included an increase in the Asset Renewal Plan by 36 per cent to a five-year total of $170 million.

The Montreal–Lake Ontario section of the Seaway opened in 1959 while the Welland Canal section in 1932. The costs associated with maintaining the existing infrastructure are rising. Future investment in maintaining the Seaway infrastructure needs to be well planned to respond to market opportunities and to facilitate trade, including the maintenance of the two U.S. locks in New York State that are an integral part of the Seaway. On May 1, 2003, the Minister of Transport signed a Memorandum of Cooperation with the U.S. Secretary of Transportation, agreeing to participate with the U.S. Department of Transportation and the U.S. Army Corps of Engineers on a comprehensive set of studies over a 30-month period to assess the ongoing maintenance and capital requirements of sustaining and optimizing the Great Lakes/Seaway system and the existing marine infrastructure on which it depends.

During the 2003 season, estimated combined traffic on the two sections of the Seaway was approximately 40.85 million tonnes, 1.3 per cent lower than in 2002. Iron ore was the most prominent among commodity shipments, with 10.65 million tonnes, up 10.5 per cent. Grain continued its downward trend with a 7.8 per cent drop in volume carried. Other commodities associated with the steel industry and other bulk cargo declined by approximately five per cent. Tables 8-10 and 8-11 show cargo movements and traffic by commodities, respectively, for 2002 and 2003. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2002 AND 2003

(Thousands of tonnes)

Year	*Montreal–Lake Ontario Section*	*Welland Canal Section*
2002	30,002	32,108
2003[1]	28,878	31,876

1. 2003 figures are estimated.

Source: St. Lawrence Seaway Management Corporation.

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2002 AND 2003

(Thousands of tonnes)

Year	Grain	Iron Ore	General Cargo	Coal	Other	Total
2002	10,462	9,640	4,157	4,114	13,015	41,388
2003	9,646	10,642	2,546	4,189	13,810	40,853

Note: Combined traffic in the two sections of the Seaway.
1. 2003 figures are estimated.

Source: St. Lawrence Seaway Management Corporation.

Rates and Tariffs

As part of the negotiated agreement with Transport Canada, the Seaway Corporation implemented a 2.23 per cent toll increase for the Canadian section of the Seaway in 2003, based on the annual average percentage change in the Consumer Price Index. However, as the Seaway Corporation's expenditures were lower than business plan targets and obligations for the fifth consecutive year, it was able to apply a one per cent toll reduction as per the agreement, bringing the net increase to 1.23 per cent.

Financial Profile

In fiscal year 2002/03, Seaway revenues from tolls and other sources stood at $66.8 million, compared with $65.7 million in 2001/02. Toll revenues rose slightly to $63.5 million but were still well below the $73.4 million collected in 2000/01. This reflects the continuing economic slowdown in the North American economy and strong competition from other modes and routes for Seaway traffic.

Operating expenses in 2002/03 totalled $58.4 million, up from $53.2 million the previous year. This was due largely to expenses associated with the difficult weather conditions prior to the opening of the Seaway. Salaries, wages and benefits accounted for the major part of this total. Expenditures for the asset renewal program stood at $24.2 million, compared with $24.5 million in the previous year.

Table 8-12 compares the financial performance of the St. Lawrence Seaway from 2000/01 to 2002/03.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2000/01 TO 2002/03

(Thousands of dollars)

Year	Revenues	Expenditures	Excess of Revenues Over Expenses	Net Excess of Revenues Over Expenses
2000/01	76,031	80,045	(4,014)	(1,821)
2001/02	65,730	79,120	(13,390)	(2,646)
2002/03	66,815	84,394	(17,579)	(4,015)

1. April 1 to March 31.
2. Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Authority/St. Lawrence Seaway Management Corporation.

INDUSTRY STRUCTURE

Canada's marine industry includes a fleet of Canadian-flag operators that provide domestic and transborder shipping services. International trades are served largely by foreign-flag operators that call at Canada's major ports.

Domestic Services

Canada's merchant fleet handles most domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. This fleet is made up of self-propelled vessels of at least 1,000 gross tonnes[1] flying the Canadian flag. At 2003 year-end, it included 181 vessels and almost 2.3 million gross tonnes.

Although declining, dry bulk carriers remain the backbone of the Canadian merchant fleet, accounting for 47 per cent of tonnage and 33 per cent of vessels in 2003. The dry bulk fleet was made up of 60 vessels in 2003, composed of straight-deck bulkers dedicated mainly to grain transportation and self-unloading vessels carrying various bulk commodities. By comparison, the number of tankers decreased from 39 in 1983 to 23 in 2003, while their capacity share increased from 10 to 24 per cent of total gross tonnage, due to the addition of larger units. In the last 10 years, the capacity of general cargo vessels also increased (from four to 12 per cent of total gross tonnage).

1 Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight in tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

An extensive fleet of tugs and barges was also in operation at the domestic and international level. In 2003, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 328 tugs (131,000 gross tonnes) and 1,203 barges and scows (almost 1.2 million gross tonnes).

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1983, 1993 and 2003.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1983, 1993 AND 2003

	Gross Tons (Thousands of tons)			*Number of Vessels*		
Type of Carriers	*1983*	*1993*	*2003*	*1983*	*1993*	*2003*
Dry bulk	1,967	1,380	1,165	133	79	65
Tankers	285	244	559	41	33	24
General cargo	81	79	206	21	14	27
Ferries	258	295	365	56	56	61
Other	73	35	35	13	8	6
Total	**2,665**	**2,033**	**2,330**	**263**	**190**	**183**

Note: Self-propelled vessels of 1,000 gross tons and over, including government-owned ferries.

Source: *Canadian Transportation Agency and Transport Canada.*

Eastern Canada

Freight services in eastern Canada, including the Arctic, are provided by a fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines.

While there were no acquisitions or mergers among Great Lakes ship operators in 2003, Algoma Central Corporation and Upper Lakes Group Inc. entered into a memorandum of understanding to increase the scope of their Seaway Marine Transport partnership. The new arrangements are expected to increase efficiency by integrating the operations, purchasing, accounting and administrative functions of the respective fleets, in addition to the joint marketing functions already performed by Seaway Marine Transport.

Western Canada

Domestic marine cargo services on the West Coast are provided by a large tug and barge fleet. Most operators are involved mainly in the domestic trades but some also trade internationally between Canadian and U.S. ports.

Several of the largest tug and barge operations are controlled by the Washington Marine Group. These include Seaspan International Ltd., the largest Canadian tug and barge operator on the West Coast; Cates Tugs; Norsk; and Kingcome Navigation Company, formerly owned by MacMillan Bloedel. The second-ranked tugboat company in British Columbia is Rivtow Marine Ltd.

Northern Canada

In the Western Arctic, the principal marine operator for the Mackenzie River Watershed, (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska is Northern Transportation Company Limited (NTCL). NTCL's principle concerns are bulk petroleum products and dry cargo for communities, defence installations and gas exploration sites across the North. Prior to the 2003 season, it also provided tug and barge operations from the Port of Churchill to communities in what is now the Kivalliq region of Nunavut.

In the Eastern Arctic, responsibility for the Arctic Sealift, for dry cargo and bulk fuel, now rests with the Government of Nunavut. For many years, this was organized by the Canadian Coast Guard. For the 2003 season, the Nunavut government awarded dry cargo sealift contracts for the Kivalliq and Baffin regions to two Inuit-owned companies. Nunavut Sealink and Supply Inc. (NSSI), a partnership between Transport Desgagnes and Arctic Cooperatives Ltd., served the seven Kivalliq region communities, plus four Baffin communities. Nunavut Eastern Arctic Shipping (NEAS) served the other 10 Baffin communities. The cargo was shipped from Montreal.

Although the Sealift contract is with the Government of Nunavut, the contract stipulates that any person or company can also use the service and enjoy the same rates and services.

The Woodward Group was awarded the contract to deliver bulk fuel to Nunavut communities. One tanker will be carrying fuel from Montreal to the region while a smaller tanker will deliver fuel to communities in the Kivalliq region from a marine tank farm at Churchill.

In addition to the Arctic Sealift for Nunavut communities, resupply services to the Nunavik Region are managed by the Quebec Ministry of Transportation, while the James and Hudson Bay Cree are served out of Mooseney (cargo originates in the Toronto region). Moosonee Shipping has also established a service for private cargo re-supply from Churchill to the Kivalliq region.

Mining operations in the Arctic regions also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound.

International Services

International marine freight transport is made up of bulk shipping and liner shipping.

Bulk shipping is marine freight carried as single cargoes and in large volume. Examples of Canadian bulk cargoes include coal, iron ore and potash.

The bulk freight industry is made up of time charters (term contracts) and "spot" or "tramp" carriers that operate on the basis of short-term contracts for a specified number of voyages or days or for a given quantity of cargo. This industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flagged ships.

The international liner trade refers to high-value containerized cargo. This trade is dominated by large fleets of specialized container vessels operating on major trade routes around the world. Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews. Shipping lines calling at Canadian ports may provide conference or non-conference liner services. Ocean carriers (i.e. individual lines) providing liner services on a common trade route will often form a shipping conference and adhere to rates and/or conditions of service under a conference agreement. Such practices are exempted from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA).

By offering rates and services comparable with those of conference operators, independent shipping lines (also called non-conference carriers) contribute to a competitive international shipping industry. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Services Available to Canadian Shippers

In 2003, the Canadian Transportation Agency had 15 shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Five of the conferences operate between Eastern Canada, Northern Europe and the Mediterranean. Some of the major lines serving Canada as conference members are Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, MITSUI O.S.K. Lines and Orient Overseas Container Lines.

Table 8-14 lists the 15 Conference Agreements.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2003

1. Canadian Continental Eastbound Freight Conference (E)
2. Canada-United Kingdom Freight Conference (E)
3. Continental Canadian Westbound Freight Conference (E)
4. Australia-Canada Container Line Association (E & W)
5. Mediterranean Canadian Freight Conference (E)
6. Canada/Australia-New Zealand Association Carriers (CANZAC) (E & W)
7. New Zealand-Canada Container Lines Association (E & W)
8. Canada Transpacific Stabilization Agreement (E & W)
9. Mediterranean North Pacific Coast Freight Conference (Canada) (W)
10. Canada/Australia-New Zealand Discussion Agreement (E & W)
11. Canada North Atlantic Westbound Freight Conference (E)
12. Canada Westbound Transpacific Stabilization Agreement (E)
13. Joint Mediterranean Canada Service Agreement (E)
14. Canadian Pacific/Latin American Freight Service (W)
15. Columbus/Maruba Working Agreement (W)

Notes: E = East Coast, W = West Coast

Source: Canadian Transportation Agency

Competition between conference and non-conference carriers benefits shippers, as does competition within conferences through the independent action provision contained in the SCEA. This provision allows individual conference lines to offer a rate, or services, different from those found in the conference tariff. Under the 2002 SCEA, the period by which an individual conference member must notify its other conference members of its intention to take independent action on rates and other service items was reduced from 15 days to five days.

In addition, the 2002 SCEA allows an individual conference line to sign service contracts with shippers without disclosing the contract terms and conditions to the conference. It also allows a conference and a shipper to negotiate and sign confidential, conference-wide service contracts. These contracts must, however, be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2003, the Canadian Transportation Agency accepted filings for 25 service contracts,[2] 26 fewer than in 2002. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada.

2 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

PASSENGER TRANSPORTATION

Ferry Services

Most major ferry operators in Canada are members of the Canadian Ferry Operators Association (CFOA). Canada's ferry services are, however, marked by wide differences in services, ownership and vessel type used. Owners range from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are also owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types vary from small cable ferries to large cruise-type vessels and fast ferries, while operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. In addition, most major ferry services have their own Web sites, routes and rates.

While traffic figures for 2003 for all members of the CFOA are not yet available, the 2002 traffic figures are a good indication of the relative size of CFOA operations. Estimates of total passenger traffic stand at more than 39 million passengers and 15.4 million vehicles. This represents approximately 14 per cent of total worldwide ferry traffic, a one per cent reduction from 2001.

By far, the British Columbia Ferry Corporation is the largest operator in Canada, carrying approximately 21.5 million passengers and eight million vehicles in 2002. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation also operate inland ferry services, carrying another 6.6 million passengers and three million vehicles in 2002. In Quebec, La Societe des traversiers du Québec carried 5.5 million passengers and 2.7 million vehicles.

In 2003, Marine Atlantic Inc., a federal Crown corporation, carried 455,000 passengers and 230,000 vehicles between Newfoundland and Labrador and Nova Scotia, an 11 per cent decrease in traffic. Private ferry operators subsidized by the federal government also carried fewer passengers and vehicles in 2003, approximately 925,000 passengers and 324,000 vehicles. The remaining CFOA members, including provincial operations in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately four million passengers and 1.8 million vehicle crossings.

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc. and two private sector operators, Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée. The federal government also provides an annual grant to British Columbia that is directed to BC Ferries.

Cruise Ship Industry

The large cruise vessels calling at Canada's ports are owned by foreign-based companies and fly foreign flags. These vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, distinguished by vessel capacity of typically less than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. For these voyages, Vancouver and, increasingly, Seattle serve as "home ports," where passengers embark and/or disembark. In 2003, Vancouver experienced its first decline in cruise traffic in 21 years, with traffic down by 15 per cent from 2002 to 953,376 passengers. This decline was attributable to several factors: the loss of the three- and four-night Pacific Northwest Cruises, the impact of world events on travel and tourism, and the ability of the Port of Seattle to attract cruise ships by opening new facilities.

In eastern Canada, luxury cruise vessels regularly sail out of New York and up the eastern seaboard, calling in Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River to stop at Quebec City and Montreal. Shorter cruises also sail out of New York or Boston and travel to Halifax, Saint John and other Atlantic ports. Many ports have been investing in new facilities to serve cruise passengers, including Quebec City, whose new cruise terminal opened in 2002. Saint John is the latest port to announce that it is building a new cruise facility in anticipation of future traffic increases.

Table 8-15 shows the international cruise ship traffic at major Canadian ports in 2002 and 2003. A longer time series is provided in Addendum Table A8-12. Other Canadian ports also benefit from calls by cruise lines, including Victoria, Charlottetown, St. John's and Sydney, Nova Scotia.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2002 AND 2003

(Passengers)

Year	Vancouver	Montreal	Quebec City	Halifax	Saint John
2002	1,125,251	59,000	66,465	157,000	71,068
2003 (prel.)	953,376	51,000	59,000	170,429	67,500

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

In 2002, marine freight traffic totalled 345[3] million tonnes, a 1.35 per cent increase from 2001. Domestic flows[4] accounted for about one sixth of this (62.6 million tonnes), 16 per cent more than in 2001 (53.9 million tonnes). Of these domestic flows, Canadian-flag vessels carried an overwhelming 95.5 per cent (59.8 million tonnes). In 2002, Canada–U.S. traffic totalled 114.3 million tonnes, a 5.9 per cent increase over 2001. Of this, Canadian-flag vessels accounted for about 44 per cent, for a total of 50.4 million tonnes. "Other" international (deep-sea or overseas) traffic[5] decreased by 5.9 per cent in 2002 to 168 million tonnes. Canadian-flag vessels carried only 0.1 per cent of this traffic.

Table 8-16 shows Canada's marine traffic statistics, by sector, in 2001 and 2002. Addendum Table A8-13 covers the same information from 1986 to 2002.

Table 8-17 shows the share of Canadian waterborne trade carried by Canadian-flag vessels in 2002.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2001 AND 2002

(Millions of tonnes)

	Flows			Total	Total
	Domestic	Transborder	Overseas	Flows	Handled
2001	53.9	108.0	176.9	340.8	394.7
2002	62.6	114.3	168.4	345.4	407.9

Source: Statistics Canada, Shipping in Canada (54-205-XIE).

TABLE 8-17: CANADIAN-FLAG SHARE OF CANADIAN WATERBORNE TRADE, 2002

(Millions of tonnes)

Canadian Waterborne Trade	Canadian Flag	Per cent	U.S. Flag	Per cent	Foreign Flag	Per cent	Total Traffic
Domestic	59.8	95.5	0.0	0.0	2.8	4.5	62.6
Canada/U.S.	50.4	44.1	10.5	9.0	53.6	46.9	114.3
Deep-Sea	0.2	0.1	0.3	0.1	167.3	99.6	168.4
Total	110.4	32.0	10.8	3.1	224.1	64.9	345.3

Source: Statistics Canada, Shipping in Canada.

DOMESTIC MARINE FREIGHT TRAFFIC

COASTING TRADE ACTIVITY FOR 2003

The transportation of passengers and cargoes as well as marine-related activities in Canadian waters is reserved to Canadian-registered duty-paid ships. This reservation also applies to the exploration and exploitation of non-living natural resources in Canada's continental shelf. If, however, no Canadian ship is available or capable of providing a particular service, then foreign-registered ships can apply to the Canada Customs and Revenue Agency (CCRA) for licences to enter Canada's coasting trade.

In 2003, CCRA received 107 applications for a coasting trade licence, 30.5 per cent more than in 2002. Of these, 61 were for the carriage of goods, 37 were for a commercial activity and nine were for the transportation of passengers. For the first time since the *Coasting Trade Act* came into force in December 1992, the Bahamian flag was the predominant foreign flag involved in Canadian waters, with 23 requests. The United States flag was second with 20 requests.

The highest percentage of activity continued to be for vessels in the offshore oil and gas exploration and production industry. In 2003, there were 46 tanker requests, 18 for seismic vessels and five for drill ships and rigs. As offshore activity shifts from exploration to production, the requirement for large-capacity shuttle tankers is increasing.

Table 8-18 shows the actual tonnage and percentage of total domestic cargo tonnage carried by foreign-registered vessels in 2001 and 2002. Table A8-14 in the Addendum gives this same information over a longer time period.

TABLE 8-18: SHARE OF TONNAGE CARRIED BY FOREIGN-FLAG SHIPS IN THE CANADIAN COASTING TRADE, 2001 – 2002

Year	Canadian	Per cent	Foreign	Per cent	Total
2001	52,803,710	97.96	1,099,1599	2.04	53,902,809
2002	59,804,175	95.49	2,822,114	4.51	62,626,289

Source: Canada Customs and Revenue Agency, Automated Cross Canada Book (Reference Cross Canada Foreign Flag Ship).

Source: Transport Canada, Marine Safety and Security, Statistics Canada.

3. Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double-counted).

4. Marine traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

5. "Other" international traffic includes shipments to and from foreign countries other than the United States.

As it is both loaded and unloaded at Canadian ports, domestic cargo is handled twice within the Canadian port system. Shipments of domestic cargo grew by 17.6 per cent to 8,723 million tonnes in 2002. Decreased shipments of pulpwood, logs and bolts, iron ore, stone and gravel were offset by a significant growth in shipments of crude petroleum, fuel oil, wheat and coal.

Table 8-19 shows flows of domestic marine traffic by region in 2002.

TABLE 8-19: MARINE DOMESTIC FLOWS BY CANADIAN REGION, 2002

(Thousands of tonnes)

Region of origin (Loadings)	*Region of Destination (Unloadings)*				
	Atlantic	*St. Lawrence*	*Great Lakes*	*Pacific*	*All Regions*
Atlantic	18,130	3,169	376	6	21,681
St. Lawrence	878	4,559	6,181	1	11,619
Great Lakes	300	4,393	8,849	0	13,542
Pacific	4	0	0	15,780	15,784
All Regions	**19,312**	**12,121**	**15,406**	**15,787**	**62,626**

Source: Statistics Canada, Shipping in Canada, Cat. 54-205

Most domestic traffic passes through the Great Lakes–St. Lawrence Seaway system. In 2002, the ports serving the Seaway handled 52.7 million tonnes (loadings and unloadings), or 42.1 per cent of the total domestic tonnage. Pacific region ports handled 25.2 per cent of the total (31.6 million tonnes). Pacific ports handled 1.1 million tonnes more domestic cargo in 2002 than in 2001, 99.97 per cent of which originated and terminated within that region. Atlantic region ports handled 41.0 million tonnes of domestic cargo in 2002, an 82 per cent increase from 2001.

Following are the primary commodities handled in the domestic trade across Canada in 2002:

- crude petroleum (30.7 million tonnes, up 176 per cent from 2001)
- pulpwood and chips (14.8 million tonnes, up 9.8 per cent)
- stone, limestone, sand and gravel (13.1 million tonnes, down 7.6 per cent)
- iron ore and concentrates (11.3 million tonnes, down 2.9 per cent)
- logs and other wood (8.3 million tonnes, up 6.5 per cent)
- fuel oil (7.3 million tonnes, down 17 per cent)
- wheat (6.9 million tonnes, down 18.7 per cent)

Together, these commodities represent almost three quarters (74 per cent) of all domestic tonnage handled at Canadian ports in 2002.

International Marine Freight Traffic

In 2002, Canadian ports handled 282.7 million tonnes of international cargo. This was down 1.4 per cent from 2001. Of this, 61.6 per cent was export-oriented (including in-transit and re-export traffic). Japan, China, South Korea, the United Kingdom and other western European nations accounted for about 60 per cent of Canada's total international (excluding U.S.) marine traffic (exports and imports).

Conference/Non-conference Market Shares

Non-conference traffic has grown consistently in recent years, both in absolute terms and as a percentage of total liner traffic. In 2002, non-conference traffic increased to 18.1 million tonnes, while conference traffic grew to 10.8 million tonnes. Non-conference operators still moved more than 60 per cent of the total liner traffic. If non-conference U.S. origin/destination transshipped traffic is taken into account, the non-conference share becomes even more dominant.[6]

Table 8-20 compares the conference and non-conference shares of Canadian liner trade between 2001 and 2002. Table A8-15 in the Addendum shows data from 1994.

TABLE 8-20: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2001 – 2002

(Millions of tonnes)

	2001	*2002*
Conference		
Exports	3.7	3.5
Imports	6.6	7.3
Total	10.3	10.8
Non-conference		
Exports	11.6	12.7
Imports	5.8	5.4
Total	17.4	18.1

Source: Transport Canada, International Database; Statistics Canada

In terms of the type of cargo carried, 2002 was like previous years in that conference operators tended to concentrate almost exclusively on containerized traffic: 10.6 million of the 10.8 million tonnes of cargo they carried was in containers. Non-conference traffic is also increasingly characterized by a large percentage of cargo in containers (14.8 million tonnes in 2002) but it includes general cargo and neobulk traffic as well.

6 It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. In addition, Halifax is handling growing amounts of U.S. Midwest traffic. This would, of course, affect the balance between conference/non-conference traffic further in favour of the independent operators.

It is also useful to break down liner traffic by foreign region of origin/destination in order to illustrate the relative shares of conference and non-conference operators on different routes. Table 8-21 compares conference and non-conference liner traffic by region for 2002.

TABLE 8-21: LINER TRAFFIC BY REGION, 2002

(Millions of tonnes)

	Liner Imports		*Liner Exports*		
Region	*Conference*	*Non-conference*	*Conference*	*Non-conference*	*Total*
Europe	4.4	1.9	3.4	1.6	11.4
Asia	2.8	2.5	-	8.9	14.2
Central America	-	0.1	-	0.7	0.8
South America	-	0.2	-	0.5	0.7
Other America	-	0.2		0.4	0.6
Middle East	-	0.2	-	0.3	0.5
Oceania	0.1	0.1	0.1	0.2	0.3
Africa	-	0.2	-	0.2	0.4
Total	**7.3**	**5.4**	**3.5**	**12.8**	**28.9**

Note: - means Nil.
Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada International Database, Statistics Canada

CANADA–U.S. FREIGHT TRAFFIC

Canada's marine traffic to and from the United States totalled 114.3 million tonnes in 2002, up by 5.9 per cent from 2001. Imports (unloadings from U.S. origins)[7] decreased by 9.7 per cent in 2002, while exports (loadings to U.S. destinations) grew by 17.5 per cent.

Table 8-22 shows Canada's maritime trade with the United States in 2001 and 2002. Addendum Table A8-16 shows the same information since 1986.

TABLE 8-22: CANADA'S MARITIME TRADE WITH THE UNITED STATES, 2001 – 2002

(Millions of tonnes)

	Loaded	*Unloaded*	*Total*
2001	62.0	45.9	107.9
2002	72.9	41.4	114.3

Source: Statistics Canada Cat. 54-205; Transport Canada

In 2002, loadings at Canadian ports destined to the United States totalled 72.9 million tonnes. Seven commodities accounted for 80 per cent of this volume: crude petroleum (15.2 million tonnes); stone, limestone, sand and gravel (10.5 million tonnes); gasoline (9.5 million tonnes); fuel oil (6.6 million tonnes); gypsum (6.6 million tonnes); iron ore (6.6 million tonnes); and salt (3.6 million tonnes).

From 2001 to 2002, significant changes took place in the volumes of major commodities exported to the United States. Crude petroleum exports jumped by 38.6 per cent; stone, limestone, sand and gravel by 11.6 per cent; gasoline by 23.5 per cent; fuel oil by 5.7 per cent; gypsum by 8.6 per cent; and iron ore by 31.1 per cent. In contrast, salt and coal exports decreased by 19.5 and 6.3 per cent, respectively.

In 2002, there were two main flow corridors: the Canadian Atlantic to the U.S. Atlantic route; and the Canadian Great Lakes to the U.S. Great Lakes route. The Atlantic route accounted for 40.8 million tonnes, or 56 per cent of total loadings to the United States, while the Great Lakes route accounted for 13.1 million tonnes, or 18 per cent of total loadings. Combined, these routes accounted for 74 per cent of Canada's commodities traffic volumes shipped to the United States using marine transport services.

In 2002, imports of U.S. marine shipments to Canada decreased by 9.7 per cent from 45.9 million tonnes in 2001 to 41.4 million tonnes. Seven commodities accounted for more than 87 per cent of this volume: coal (19 million tonnes); iron ore (5.4 million tonnes); basic chemicals (3.3 million tonnes); stone, limestone, sand and gravel (3.1 million tonnes); fuel oil (2.2 million tonnes); other petroleum products (2.2 million tonnes); and other agriculture products (one million tonnes).

As with exports, there were significant differences in the volumes of commodities imported from the United States between 2001 and 2002. Imports of iron ore and basic chemicals were up 19.4 and 10.8 per cent, respectively, while shipments of coal and fuel oils dropped by 14.3 and 16.3 per cent, respectively.

More than 77 per cent of the total volume of all marine imports from the United States originated at ports on the Great Lakes. Ports along the U.S. Atlantic and the Gulf of Mexico accounted for 15.5 per cent, while U.S. Pacific ports made up the remaining seven per cent.

Table 8-23 shows traffic flows from Canadian to U.S. ports in 2002, while Table 8-24 shows traffic flows from U.S. to Canadian ports.

TABLE 8-23: CANADA'S MARINE TRAFFIC TO THE UNITED STATES, 2002

(Millions of tonnes)

	U.S. Region of Destination			
Canadian Region of Origin	*U.S. Atlantic*	*U.S. Great Lakes*	*U.S. Pacific*	*Total*
Atlantic	40.8	0.0	0.2	41.0
St. Lawrence	5.2	3.3	0.0	8.5
Great Lakes	0.1	13.1	0.0	13.2
Pacific	0.6	0.0	9.6	10.2
Total	**46.6**	**16.4**	**9.8**	**72.9**

Note: Totals may not add up due to rounding.
Source: Statistics Canada Cat. 54-205; Transport Canada

7 Including in-transit and transshipment cargo.

TABLE 8-24: CANADA'S MARINE TRAFFIC FROM THE UNITED STATES, 2002

(Millions of tonnes)

	U.S. Region of Origin			
Canadian Region of Destination	*U.S. Atlantic*	*U.S. Great Lakes*	*U.S. Pacific*	*Total*
Atlantic	2.8	0.1	0.0	3.0
St. Lawrence	3.4	2.7	0.1	6.2
Great Lakes	0.1	29.4	0.0	29.5
Pacific	0.1	0.0	2.7	2.8
Total	**6.4**	**32.1**	**2.9**	**41.4**

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

Overseas Freight Traffic

In 2002, Canada's marine trade with overseas countries (excluding the United States) totalled 168 million tonnes. This was a six per cent decrease from 2001. Exports made up more of this volume than imports. Approximately 59 per cent of overseas exports were loaded at West Coast ports, while 88 per cent of overseas imports were unloaded at East Coast ports.

Table 8-25 shows Canada's maritime overseas trade in 2001 and 2002. Addendum Table A8-17 shows overseas trade since 1986.

TABLE 8-25: CANADA'S MARITIME OVERSEAS TRADE, 2001 – 2002

(Millions of tonnes)

	Loaded	*Unloaded*	*Total*
2001	112.7	66.2	178.9
2002	101.4	67.0	168.4

Source: Statistics Canada, Cat. 54-205; Transport Canada

In 2002, Canadian ports loaded 101.4 million tonnes of cargo to be shipped to non-U.S. countries, 10 per cent less than in 2001. The major commodities shipped from Canada included: coal (24 million tonnes); iron ore (18.6 million tonnes); containerized freight (13.4 million tonnes); wheat (10.3 million tonnes); sulphur (5.2 million tonnes); woodpulp (5.1 million tonnes); and potash (4.7 million tonnes). Slightly more than 13 per cent of this traffic was containerized.

Coal, wheat, wood pulp and sulphur shipments showed significant decline in 2002. Coal shipments decreased 13.8 per cent, wheat by 32.1 per cent and woodpulp by six per cent. Iron ore shipments, however, increased by six per cent.

Also in 2002, three fifths of Canada's total marine exports to overseas destinations were loaded at ports in western Canada. The ports along the St. Lawrence Seaway handled most of the loading for ports in Eastern Canada. At 71 per cent, Western ports dominated the tonnage shipped on the Asia and Oceania trade routes, while the Eastern ports handled 60 per cent of the tonnage shipped to Europe.

In terms of imports, Canadian ports unloaded 67.0 million tonnes of marine shipments from overseas origins in 2002, 1.2 per cent more than in 2001. Imports of crude petroleum[8] totalled 28 million tonnes, accounting for 42 per cent of all marine traffic unloaded from offshore origins. Other major commodities unloaded included: containerized freight (11.9 million tonnes); other metallic ores and concentrates (3.9 million tonnes); basic chemicals (3.7 million tonnes); gasoline (3.7 million tonnes); iron and steel (3.1 million tonnes); and coal (2.8 million tonnes). About 18 per cent of this inbound traffic was containerized.

In addition, more than 87 per cent of overseas shipments were unloaded at ports in Eastern Canada. Overseas cargo originated mainly from Europe, the Middle East and Africa.

Table 8-26 shows Canada's marine traffic to overseas destinations, while Table 8-27 shows Canada's marine traffic from overseas markets in 2002.

TABLE 8-26: CANADA'S MARINE TRAFFIC TO OVERSEAS, 2002

(Millions of tonnes)

	Canadian Region of Origin		
Foreign Region of Destination	*Eastern Ports*	*Western Ports*	*Total*
Asia and Oceania	5.6	42.8	48.4
Europe	24.6	7.2	31.8
South and Central America	5.5	7.5	13.0
Middle East and Africa	5.5	2.7	8.2
Total	**41.2**	**60.2**	**101.4**

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

TABLE 8-27: CANADA'S MARINE TRAFFIC FROM OVERSEAS, 2002

(Millions of tonnes)

	Canadian Region of Destination		
Foreign Region of Origin	*Eastern Ports*	*Western Ports*	*Total*
Europe	26.9	0.2	27.1
Middle East and Africa	15.7	0.1	15.8
South and Central America	12.9	1.0	13.9
Asia and Oceania	3.4	6.8	10.2
Total	**58.9**	**8.1**	**67.0**

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Cat. 54-205; Transport Canada

8 Including transshipments of North Sea Crude petroleum.

MARINE TRADE

According to international trade data, the value of Canadian international marine trade in 2002 was $103.2 billion (excluding shipments via U.S. ports). This represents a 4.2 per cent increase from 2001. Marine imports were valued at $57.1 billion, while marine exports were valued at $46.1 billion. The value of imports increased by 5.9 per cent, notably with increased cargoes inbound from Asia (China, Japan, South Korea and Taiwan). The value of exports also increased, by 2.2 per cent, mainly to United States, Germany and the Netherlands.

Table 8-28 shows the value of the marine share of Canada's international trade in 2002.

TABLE 8-28: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2002

(Billions of Canadian dollars)

	Marine	*All Modes*	*Marine (per cent)*
Transborder			
Exports[1]	11.35	345.37	3.3
Imports	3.34	218.33	1.5
Total U.S.	**14.68**	**563.70**	**2.6**
Other countries			
Exports[1]	34.75	51.01	68.1
Imports	53.76	130.39	41.2
Total	**88.51**	**181.40**	**48.8**

Note: Totals may not add up due to rounding.
1. Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

Marine traffic with the United States was valued at $14.7 billion in 2002, driven by exports of $11.4 billion. This value, however, represented only 2.6 per cent of total Canada–U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

In 2002, Canada's marine trade with overseas countries (excluding the United States) was valued at $88.5 billion. Of this total, exports accounted for an estimated at $34.7 billion while imports accounted for $53.8 billion. In terms of value, marine transport accounted for 49 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

Asia, Western Europe and the United States are the major areas of exports/imports. The principal commodities exported to foreign countries (including the United States) were: forest products ($9.1 billion); gasoline/fuel oils ($5.8 billion); and grains ($4.4 billion). Imports consisted of: textiles, leathers and end products ($8.5 billion); crude petroleum ($8.4 billion); automobile vehicles ($8.2 billion); machinery ($4.9 billion); and other food products ($3.0 billion). For the United States and overseas countries and principal commodities exported/imported by value, see Addendum Table A8-18.

AIR TRANSPORTATION 9

Despite difficult market conditions in 2003, low-cost no-frills air carriers continued to grow and to generate profits.

MAJOR EVENTS IN 2003

Air Canada

Air Canada filed for court protection under the *Companies' Creditors Arrangement Act* (CCAA) on April 1, 2003. To facilitate its restructuring, the airline has proposed cutting its annual operating costs by at least $2.1 billion, which include annual labour cost savings of $1.1 billion. On November 8, 2003, Air Canada's Board of Directors selected Trinity Time Investments, controlled by Victor T.K. Li, to provide the company with $650 million in new equity to support the airline's emergence from CCAA protection. This investment provides Mr. Li with a 31 per cent share of the common equity and 49 per cent of the voting shares in the airline. Air Canada has stated that it intends to emerge from CCAA protection by April 30, 2004.

Severe Acute Respiratory Syndrome

In March 2003, the World Health Organization (WHO) issued a worldwide advisory for countries with confirmed cases of severe acute respiratory syndrome (SARS), including Canada (Toronto). Health Canada was the lead for implementing several measures to contain the disease. Six Canadian airports were targetted for special health screening: Toronto, Vancouver, Ottawa, Calgary, Dorval and Mirabel. Transport Canada supported Health Canada's initiatives at Toronto and Vancouver airports for inbound and outbound screening, and played a significant role at the other four airports. Transport Canada established the necessary infrastructure, selected non-medical personnel and defined operational procedures for Calgary, Dorval, Mirabel and Ottawa airports. These staff and operational procedures ensured that each passenger and crew member had filled a medical self-assessment questionnaire (yellow card) before seeing a Customs Officer. Summary data was collected and reported daily to Health Canada's headquarters. Most of Transport Canada's direct involvement with the response to SARS took place during May and June. In July, Transport Canada gradually withdrew from the project, handing over its responsibilities to Health Canada and Canada Customs and Revenue Agency (CCRA) officials.

Air Travel Complaints Commissioner

Ms. Liette Lacroix Kenniff was the Air Travel Complaints Commissioner throughout 2003. She was re-appointed by the Minister of Transport in September 2003 for an additional one-year term. The Commissioner released two reports in 2003 covering the calendar year 2002. The first report, tabled in Parliament on January 30, covered the first six months of 2002 and cited a decrease in the number of complaints received by the Commissioner's office over the previous six-month period. The Commissioner's second report, covering the final six months of 2002, was tabled in Parliament on June 5. It noted that although the number of complaints continued to decline, the nature of the public's concerns were more complex, as the airline industry, faced with declining revenues and rising costs, appeared less willing to offer settlements that passengers considered acceptable. The Commissioner and her staff frequently had to enter into difficult negotiations with carriers to reach solutions acceptable to consumers.

Canada Airports Act

The proposed *Canada Airports Act* (CAA), introduced as Bill C-27 in the House of Commons on March 20, 2003, had not reached the Committee stage when Parliament adjourned in December 2003.

The objectives behind the legislation were to strengthen governance, transparency and accountability at Canada's major airports, primarily those operated by airport authorities. It included a formal declaration of a national airports policy. It covered the roles and responsibilities of the federal government, those of the airport authorities and other airports, the obligations respecting transparency and accountability, and the mechanisms for users' input. It also addressed competition issues related to access to facilities and slots, as well as charging principles and a process for setting airport fees, ancillary activities and enforcement mechanisms.

Airport Rent Policy Review

In response to the demands of airports and aviation communities and to the issues raised by the Auditor General in October 2000, a review of the rent policy for 22 airports leased to 21 Airport Authorities in the National Airports System (NAS) was launched in 2001. The review is designed to assess whether the federal government's airport rent policy balances the interests of all stakeholders, including the air industry and Canadian taxpayers. It has been conducted at the same time as, but independently of, the development of the proposed *Canada Airports Act*.

During 2002 and 2003, Transport Canada, with the assistance of independent financial experts, embarked on a number of key studies examining the value of leased NAS airports, the impact on the air sector and the travelling public, and the fairness and equity of the current rent model. These studies are expected to be completed in 2004 and will be subject to government due diligence and the evaluation of results. Results of the review will be used as key inputs to a government decision.

Federal Space Review At National Airport System Airports

A review of the space occupied by federal departments and agencies at key NAS airports across the country was launched in 2003. Numerous federal entities require space at airports to carry out their mandates, including the inspection agencies (e.g. Canada Customs and Revenue Agency, Health Canada, Citizenship and Immigration Canada, Canadian Food Inspection Agency, Canadian Airport Transport Security Authority, etc.) and Transport Canada. In accordance with federal legislation, space and facilities are generally provided to these government departments and agencies at no cost.

Since September 11, 2001, there has been a need to increase the federal presence at airports to fulfill the safety and security roles of the federal government related to the processing of passengers and cargo. The additional demands on free space have created new cost challenges for the Airport Authorities, and this led to the decision to review existing federal government policies and determine whether some adjustments are required. The Federal Space Review at NAS airports is expected to be completed in fiscal year 2004/05 with the objective of developing a new policy for approval by the government.

Regional And Small Airports Study

Further to the decision taken by the federal government to continue its divestiture initiative in early 2002, it was agreed that Transport Canada would undertake a financial analysis of small and regional airports to understand the impact of federal government divestitures on their respective communities. During fiscal year 2002/03, Transport Canada began a study to analyze the financial viability of regional and small airports that it transferred since the introduction of the federal government's National Airports Policy (NAP) in 1994. The NAP provided a framework that defined the federal government's role in the commercialization of airports.

Air Travellers Security Charge

To fund the costs of the enhanced air travel security system introduced in response to the September 11, 2001, terrorist attacks in the United States, the Air Travellers Security Charge was introduced and has been effective since April 1, 2002. It was initially set at $12 per enplanement, up to a maximum of $24 per ticket, for air travel within Canada, $12 for transborder air travel to the continental United States, and $24 for other international air travel. With respect to domestic travel, the charge applies to flights between the 89 airports at which the Canadian Air Transport Security Authority (CATSA) delivers the enhanced air travel security system. As of March 1, 2003, the charge for air travel within Canada was reduced from $12 to $7 for one-way travel and from $24 to $14 for round-trip travel, a reduction of more than 40 per cent.

Computer Reservation Systems

Until the late 1990s, Canadian carriers were very reliant on computer reservation systems to distribute their inventory of air services to travel agents for sale to the general public. To ensure adequate competition, computer reservation systems have been a regulated sector since 1995 under the *Aeronautics Act*. The emergence of the Internet as a competitive alternative distribution channel compelled an extensive review of those regulations by Transport Canada. This resulted in the publication of proposed amendments to those regulations in part I of the *Canada Gazette* on October 25, 2003. Transport Canada began reviewing formal responses to the proposed amendments by industry stakeholders and the general public, and a formal public meeting was held in February 2004 to solicit further comments before making a final determination on amendments.

Electronic Collection Of Air Transportation Statistics

The national Electronic Collection of Air Transportation Statistics (ECATS) initiative began in April 2003 with the following objectives: to collect electronically all operational air transportation statistics from the approximately 170 domestic, U.S. and other international air carriers serving airports in Canada; to improve the timeliness of air transportation statistics to both government and industry; to reduce the reporting burden and associated costs to stakeholders; and to have Transport Canada receive air transportation data as close to "real time" as possible. Implementation of this phase of the ECATS initiative is to be completed by the end of calendar year 2004. At that time, plans to expand the ECATS initiative to further include electronic collection of air cargo, general aviation and carrier financial information will be initiated.

Third-Party War and Terrorism Liabilities Indemnification

On September 22, 2001, after international insurers withdrew previous levels of coverage, the federal government announced that it would provide short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity continues to be in force, for renewable periods of 90 days. While there has been some recovery in the insurance markets, previous levels of coverage are still not available at reasonable prices. Other countries provide support to their carriers in this area.

Provincial And Territorial Initiatives

On January 7, 2003, a three-year agreement between Air Canada and the Government of Quebec came into effect whereby the airline provides a large number of seats at reduced fares to non-government users on 15 regional routes and continues service on these routes in return for the Quebec government increasing purchases of air services from Air Canada.

In June 2003, the Nunavut Territorial Government released the Nunavut Air Services System Implementation Options Report. As a basis for future discussions with airlines, the report's objectives are improved air service, a modernized air fleet and expansion of airport development. The report concludes that contractual incentives might be the best option to achieve improvements in air services. Since the Government of Nunavut, along with the federal government, purchases between 60 and 80 per cent of air travel, this option suggests that the governments would use their purchasing power to negotiate improvements. In the short term, the recommended approach is for the government of Nunavut to set up multiple airline contracts on selected routes and markets.

The Fredericton Chamber of Commerce successfully attracted Delta Air Lines to offer twice-daily flights between Fredericton and Boston by setting up an airline travel bank. Through this travel bank, businesses commit to using the new service. Demand is developed even before the service starts and the new route represents less of a risk for the airline. Delta Connection (Atlantic Coast Airlines) started its new year-round non-stop jet service on August 15, 2003.

Preclearance Act

Following the designation of preclearance areas at Canadian airports (Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg), Canada and the United States brought into force a new Agreement on Air Transport Preclearance on May 2, 2003. This represented the last step in a process that gives U.S. border inspectors the right to administer, within the confines of preclearance areas at selected Canadian airports, certain U.S. laws related to customs, immigration, public health, food inspection and plant and animal health. Pursuant to the *Preclearance Act*, the Minister of Transport, in consultation with the Minister of Foreign Affairs, is responsible for the designation of preclearance areas.

From Canada's perspective, the entry into force of the preclearance agreement formalizes in-transit preclearance at Vancouver and allows for its introduction at Calgary, Montreal and Toronto. In-transit preclearance allows international passengers destined for the U.S. via a Canadian airport (i.e. arriving international intransit passengers who have not cleared Canadian customs and immigration) to go directly into U.S. preclearance. This will allow Canadian airports to become more effective international gateways to the United States.

Multiple Designation Policy

The Minister announced several new designations as part of the new multiple designation policy that was announced in 2002. The new policy allows all carriers to apply to operate scheduled international air services to any air market. As a result of this policy, the following designations were made in 2003: Air Canada (Cuba), Air Transat (Dominican Republic and Mexico), HMY Airways (Mexico), Skyservice (the Dominican Republic and the United Kingdom) and Zoom Airline (the Dominican Republic, Mexico and the United Kingdom).

Bilateral Agreements

Canada had a total of 74 international air agreements or arrangements in force at the end of 2003. The federal government participated in 11 rounds of negotiations or consultations with seven countries during the year. This included the successful conclusion of a first-time air agreement with Vietnam, which allows for extensive code-sharing rights for airlines. Negotiations took place with France in an effort to provide more flexibility to airlines operating in one of Canada's largest international markets. Negotiations with Russia are ongoing with the view of permanently securing the right of Canadian airlines to fly over Russian territory. A new arrangement with Luxembourg was put in place, allowing Cargolux to operate all-cargo flights to Calgary. Temporary air service arrangements for Israel and Singapore were extended to allow existing air services to continue. Consultations with Chile on doing-business provisions were successfully concluded, allowing that agreement to come into force.

INFRASTRUCTURE

Canada's air transportation infrastructure is composed of airports and the Air Navigation System (ANS). With respect to airports, Transport Canada's role has shifted from owner and operator to landlord and regulator. Transport Canada continues to be responsible for the regulation and safety of the ANS, but it has transferred ownership to NAV CANADA. These changes were designed to promote safety, efficiency, affordability, service integration, innovation and commercialization.

Airports

Canada has approximately 1,700 aerodromes, which are facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for floatplanes, heliports for helicopters, and land airports for fixed-wing aircraft.

Most of Canada's commercial air activity takes place at certified land airports. Because of their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

At the close of 2003, the *Canada Flight Supplement* and the *Canada Water Aerodrome Supplement* listed 1,746 certified or regulated sites. Table 9-1 shows the number of airports for fixed-wing aircraft in Canada.

TABLE 9-1: CANADIAN LAND AIRPORTS FOR FIXED-WING AIRCRAFT, 2003

	Certified	*Registered*	*Military*	*Total*
Heliports	277	83	0	360
Water	8	290	0	298
Land	356	729	3	1,088
Total	**641**	**1,102**	**3**	**1,746**

Source: *Canada Flight Supplement*, December 25, 2003; *Water Aerodrome Supplement*, March 20, 2003.

Since the introduction of the National Airports Policy in 1994, the federal government has been reducing its role in the management, operation and ownership of airports. The transfer process has been largely completed and the current state of transfer is posted monthly on the Internet at www.tc.gc.ca/programs/airports/status/menu.htm.

Airport Authority Revenues And Expenses

Airport authorities operate the federally owned National Airports System airports under long-term leases, with the exception of the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations, with independent and publicly accountable boards of directors. Prince George Airport was the final NAS airport to be divested and it was transferred on March 31, 2003. Airport authority financial statements for the year ending in 2002 are shown in Table A9-1 of the Addendum.

Airports Capital Assistance Program

Since April 1995, Transport Canada has provided the Airport Capital Assistance Program (ACAP) to help eligible non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction. Eligibility requirements for the airports include receiving a minimum of 1,000 passengers annually, meeting airport certification requirements, and not being owned by the federal government. In 2003, the program approved 43 projects at 31 airports for an estimated total funding of $27.6 million. Addendum Table A9-2 shows the allocation of funds by province since the inception of the program, while Addendum Table A9-3 lists ACAP projects approved in 2003.

Airport Improvement Fees

A number of airport authorities collect Airport Improvement Fees (AIFs). AIFs now represent approximately 20 per cent of total airport revenues on average, and this percentage continues to grow. Currently, most AIFs vary from $10 to $15 per passenger. The majority of AIFs are collected through the airlines' ticket systems, but some are collected directly by the airport. Addendum Table A9-4 lists the current AIFs for the 26 NAS airports.

Financial Performance of NAS Airports

The terrorist attacks of September 11, 2001, and the slowdown in the global economy contributed to a five per cent decline in overall passenger traffic at the NAS airports in 2002. As a result, the total net income at the nine largest airports decreased from $144 million in 2001 to $121 million in 2002. The net income decreased mainly due to rising interest charges and amortization associated with airport capital expansion projects, which offset revenue growth. During this period, the net income at Toronto, Calgary, and Ottawa airports declined but increased at the Winnipeg airport, which had minimal debt financing. The net income at Montreal airport increased due to higher AIF revenue and lower operating costs.

Despite the decline in passenger traffic, the total revenue of the nine largest NAS airports increased by six per cent in 2002. While revenues at Vancouver and Victoria airports declined, revenues at Montreal, Calgary, Winnipeg, Edmonton, Ottawa and Halifax airports increased marginally. During the same period, the Greater Toronto Airports Authority experienced revenue growth of 12 per cent, primarily as a result of the introduction of AIFs.

Most of the medium NAS airports (more than 500,000 passengers annually) experienced declines in both revenues and net income in 2002. Of all Canadian airports, small NAS airports (fewer than 500,000 passengers annually) experienced the most severe traffic decline in 2002, with similar declines in revenues and net income. Charlottetown and Gander airports were particularly hard hit and experienced double-digit declines in passenger traffic.

The total capital expenditures at the nine largest airports was $1.6 billion in 2002, as the major capital projects at Toronto, Montreal, Calgary, Ottawa and Victoria airports continued as planned. At the Toronto airport, a $4.4 billion capital expansion project (Airport Development Program) is well under way. The new terminal building, which is to replace the existing Terminals 1 and 2, is scheduled to open in 2004. At Ottawa, a $310 million capital project, which included construction of a new passenger terminal building, was completed in October 2003. The total capital expenditures at the medium NAS airports were $21 million, as Saskatoon and St. John's airports continued their capital projects. In addition, many of the small NAS airports such as Fredericton, Moncton, London and Saint John continued their major capital expenditures. The total capital expenditures at the small NAS airports in 2002 were $47 million.

Air Navigation System

NAV CANADA is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. As a result, the financial instability of individual air carriers may have short-term effects on NAV CANADA's cash flows. For more information on NAV CANADA, visit the corporation's Web site at www.navcanada.ca.

To help address its financial difficulties in 2003, NAV CANADA signed a cross-border lease/lease-back transaction with a U.S. investor for a portion of its assets. The transaction for equipment with a value of approximately $270 million yielded a benefit of $25 million to NAV CANADA.

INDUSTRY STRUCTURE

Airlines

Air Canada and Subsidiaries

Air Canada, together with its subsidiaries, remained Canada's largest airline in 2003. It earned revenues of $8.2 billion between October 1, 2002, and September 30, 2003, while providing service to 62 points in Canada, 49 in the United States and 43 international destinations in 30 countries. Air Canada is a founding member of Star Alliance, a consortium of 15 airlines that serve 680 destinations in 127 countries. It has three wholly owned subsidiaries: Jazz operates less busy domestic and transborder routes, particularly to small communities; Zip provides frequent low-fare service on domestic routes; and Air Canada Vacations offers tour packages to popular destinations. Jetz, an internal division of Air Canada, offers premium charter service to sport teams and businesses. In addition, four independent local service operators (Air Creebec, Air Georgian, Air Labrador and Central Mountain Air) offer regional services on behalf of Air Canada.

Low-Cost Carriers

Domestically, and on some transborder routes, Canada has seen the entry and growth of a number of low-cost, no-frills carriers in recent years. In fact, these carriers have been the source of most traffic growth, a trend that can be seen in Canada and around the world. Calgary-based WestJet is now Canada's second-largest airline, having earned $860 million in revenues in 2003. It serves 24 cities with 44 aircraft. Montreal-based Jetsgo expanded its fleet from three to twelve aircraft during 2003 and serves 11 Canadian cities. CanJet, based in Halifax, operated six aircraft to seven Canadian cities. In addition to their domestic services, all three low-cost airlines offer seasonal services to international tourist destinations.

Charter Air Services

Canada has a number of charter airlines that provide both domestic and international service. They focus on point-to-point transportation to leisure destinations, often as part of a vacation package. Their markets are typically served with low frequencies (sometimes only one or two flights a week) and are highly seasonal, with summer service mainly to Europe or within Canada and winter service primarily to the south. The major players in this segment of the industry are Air Transat and Skyservice Airlines. Montreal-based Air Transat flies 15 aircraft to 74 destinations in 25 countries and earned $787 million in revenues in 2002. Skyservice, based in Mississauga, has a fleet of 21 aircraft and flies to 66 destinations. Two other airlines are involved in the charter market: Vancouver-based HMY Airways with two aircraft and Ottawa-based Zoom Airlines with one aircraft.

Foreign Airlines

Twelve U.S. airlines operate to 18 Canadian cities, while 36 foreign airlines provide service between Canada (primarily from Montreal, Toronto and Vancouver) and 47 international destinations in 34 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

Northern Airlines

A number of airlines provide year-round scheduled and charter service across northern Canada with combination passenger and cargo aircraft. The major participants are Air North, Calm Air, Canadian North (incorporated as Air Norterra) and First Air. Services by these airlines are complemented by other airlines such as Aklak Air, Kenn Borek Air and North-Wright Airways. They offer flights to the most remote communities in the Arctic. Most airlines in the region also provide Medevac services and other transport under contract to the federal and territorial governments.

Local Service Airlines

Smaller local service airlines provide service across Canada, particularly to remote communities, in niche markets (e.g. Bearskin Airlines' service between points in Ontario, and floatplane and helicopter services in British Columbia). They also operate alternative services in some regional markets (e.g. Hawkair in British Columbia and Provincial Airlines in eastern Canada). Addendum Table A9-6 lists the largest of these airlines and their major areas of operation. Like the airlines serving the Arctic, many of the local service airlines provide emergency transport under contract to the federal and provincial governments.

All-Cargo Airlines

A number of all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. They include AllCanada Express and Cargojet Canada, both based in Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton.

Business and Commercial Aviation

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2003, the Canadian Transportation Agency reported that more than 2,300 licences were active. Table A9-7 in the Addendum shows the number of licences held as of December 31, 2003. The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2003 is roughly equal to the number of air transport licences. Addendum Table A9-8 summarizes the number of personnel licences issued, while Table A9-9 gives a provincial breakdown of the licences.

Business aviation continued to grow in 2003 due to fractional ownership, which allows individuals or businesses that would not otherwise be permitted to own aircraft on their own to share aircraft use by purchasing units of flight time. This type of aircraft ownership is regulated in Canada as a commercial air service.

Specialty air services use aircraft but do not involve the movement of passengers or cargo between two points. They include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and heli-logging, as well as hovercraft services. While some large companies are represented in this sector, many of the companies are very small operators serving local markets.

General Aviation

General aviation represents about half of all aircraft movements at controlled airports in Canada, although much of the activity in 2003 was at non-controlled airports.

Recreational flying in its various forms represented the bulk of general aviation activity, accounting for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2003. It is also the largest segment of Canadian civil aviation activity. While most recreational aircraft are standard planes, this segment also includes all other types of recreational aircraft such as ultra-lights, gliders and balloons, among others. Table A9-10 in the Addendum gives further detail on the types of aircraft operated.

Price, Productivity and Financial Performance

In 2002, the total revenue generated in the air transport industry dropped for the second year in a row, by 3.5 per cent. Decreases were observed in all passenger and freight markets, except on overseas markets. In domestic markets, the drop in activity[1] (-9 per cent) can be explained in part by higher prices (+5.8 per cent). In transborder markets, prices fell by more than 10 per cent, but this was not sufficient to sustain a growth in demand. Overseas markets were more resilient, as demand grew despite higher prices. Although revenue and traffic declined in both 2001 and 2002, the industry has averaged annual growth in revenues and output of 6.3 and 4.4 per cent, respectively, since 1996.

1 The measure of activity takes into account both the number of passengers and the distance they travelled.

While the industry restructuring led to strong productivity gains in 2001, overall productivity stayed about the same in 2002. Contrary to 2001, factor prices declined by 1.1 per cent in 2002, with major declines (-13 per cent) in fuel prices. As a result, unit costs fell by 1.1 per cent in 2002. Over the 1996 – 2002 period, airline productivity gains averaged 0.4 per cent a year. Over the same period the rail and freight industries recorded a combined annual productivity growth of 2.1 per cent. Factor prices, which are mostly out of the industries' control, increased by 2.8 per cent, more than twice as fast as general inflation. As a result, unit costs increased by 2.4 per cent a year over this period.

The financial difficulties of Air Canada led it to seek court protection in 2003. Westjet reported increased revenues (+26 per cent) and operating profit (+38 per cent). Air Transat also improved its financial performance. Other Level II carriers had combined revenues exceeding the billion-dollar mark in 2002.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. Canada's domestic air cargo market is deregulated; as such, there are no restrictions on routing, capacity or price. Transborder and international air cargo services are covered by bilateral air agreements, other international agreements and national policies. Some all-cargo airlines do provide charter services outside of Canada on behalf of foreign-based airlines but have little presence on their own in international markets. However, a significant amount of cargo is carried in the belly-hold of passenger aircraft.

There are several operators in Canada providing dedicated all-cargo service, with a total of 50 aircraft. In addition, Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of its revenues in the first three quarters of 2003. In the North, Canadian North and First Air also provide air cargo services, along with numerous other smaller operators.

Table A9-11 in the Addendum shows the volume of goods carried by Canadian air carriers from 1993 to 2002. Overall, the number of tonnes carried remained substantially the same in 2002 as in 2001. The strongest growth was registered in international markets, which increased by five per cent in 2002. This was counterbalanced by an 11 per cent decrease in cargo carried by air to the United States. Addendum Table A9-12 shows the operating revenues generated by goods carried by Canadian air carriers. Between 2001 and 2002, domestic revenues dropped by five per cent, while international and transborder revenues (combined) decreased by three per cent.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. From 1997 to 2000, air cargo trade between Canada and the United States rose steadily, but since then has decreased each year, declining by $14.3 billion, or 30 per cent over the past three years. This loss was higher in the import than the export sector. Air cargo's share of total Canada–U.S. trade was 6.2 per cent in 2003, down from a high of 8.1 per cent in 2000.

As Addendum Table A9-13 shows, Canada's air trade with countries other than the United States remained essentially the same in 2003 as in 2002 (a 0.6 per cent decrease). This can be explained by the surge in exports (up 13 per cent) that was balanced by a decrease in imports (down seven per cent). Trade remained import-oriented, making up about twice the value of exported goods. The air mode's share of the total value of trade with other countries dropped from a high of 23.4 per cent in 2000 to 20.9 per cent in 2003.

Of goods shipped by air, 84 per cent originated in or were destined for eastern provinces. As expected, the United States, followed by countries in Western Europe and Asia, were the main markets for trade with Canada using air transport. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 in the Addendum breaks down the commodity group for goods shipped by air. Not surprisingly, high-value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods make up the majority of the goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

With the outbreak of SARS in Toronto, the year 2003 proved to be challenging for air traffic. At the height of the outbreak in May, overall air traffic had decreased by 11 per cent from levels the previous May. The impact was most severe in the transborder and international sectors, where traffic decreased by 17 and 19 per cent, respectively. Toronto and Vancouver were most affected by the crisis, although all the major airports in Canada reported reduced traffic levels. Traffic has gradually recovered during the summer and fall, with most airports reporting modest year-over-year growth by year-end.

The impact of SARS was that traffic in 2003 decreased by two per cent from 2002 to 54 million passengers. Air traffic in the transborder sector was the most affected, with a four per cent decrease from 2002 while the international sector experienced a two per cent decrease. Air traffic in the domestic sector remained essentially unchanged in 2003. However, traffic in all three sectors was significantly below its peak in 2000, when 60 million passengers were carried. Table 9-2 shows the continued decline in traffic since 2000.

TABLE 9-2: AIR PASSENGER TRAFFIC, 1999 – 2003

(Thousands of passengers)

	Domestic	*Transborder*	*International*	*Total*
Air Passengers				
1999	26,645	19,644	12,271	58,560
2000	26,001	20,824	13,177	60,002
2001	25,726	19,506	13,166	58,398
2002	24,549	18,265	12,561	55,375
2003	24,570	17,476	12,270	54,316
Annual Change (Per cent)				
1999 – 2000	(2.4)	6.0	7.4	2.5
2000 – 2001	(1.1)	(6.3)	(0.1)	(2.7)
2001 – 2002	(4.6)	(6.4)	(4.6)	(5.2)
2002 – 2003	0.1	(4.3)	(2.3)	(1.9)

Notes: Data estimated for 2002 and 2003.
Passenger traffic is based on enplaned and deplaned passengers but counts for the domestic sector have been divided by two to avoid the double counting of passengers.

Source: Statistics Canada.

For a summary of 2002 traffic at the 26 NAS airports, by sector and region, see Table A9-16 in the Addendum.

SERVICES

Low-fare airlines continued to expand in 2003. (See Addendum Table A9-17 for a list of new services.) WestJet added service to four new points in the east, Gander, Montreal, St. John's and Windsor. In addition to the new routes, WestJet continued to add flights over existing routes, with an emphasis on increasing its presence on transcontinental routes. Jetsgo added Calgary, Edmonton, Ottawa and St. John's to its network. Moreover, Jetsgo converted seasonal services in Charlottetown and Sydney to a year-round service. However, Jetsgo ceased service to Timmins in April, and WestJet withdrew service to Sault Ste. Marie and Sudbury in September. Charter airlines reduced domestic service as a result of the increased competition although Air Transat, HMY Airways and Skyservice Airlines remained active in the major markets, especially during the summer peak season.

Air Canada's regional service commitments, made to the Minister of Transport when it acquired Canadian Airlines in December 1999, expired on January 4, 2003. At that time, Air Canada Jazz withdrew its service to St-Leonard in New Brunswick, Stephenville in Newfoundland and Labrador, and Yarmouth in Nova Scotia, as well as service linking Newfoundland to Labrador. St-Leonard and Yarmouth remain without air service, although Sou'West Air temporarily offered air service to Yarmouth. Air Labrador and Provincial Airlines continued to serve Stephenville and Labrador. Air Canada also removed its code from flights serving High Level, Peace River and Rainbow Lake in Alberta, although service continued to be provided by Central Mountain Air.

One of the most notable changes at Air Canada was the repositioning of its Tango brand from a separate airline to a low-fare product offered on all domestic flights. As a result, all flights with aircraft dedicated to Tango ended in September. Air Canada subsidiary Zip continued its expansion, adding six cities to its network in 2003. However, the additions made at Zip came at the expense of existing Air Canada flights. Zip now serves 10 destinations across Canada.

Low-cost airlines were also active in the transborder market in 2003, as CanJet, Jetsgo and HMY Airways added several new routes to the United States. Most of the new routes involve winter-only flights to Florida, but a few others like Jetsgo's new service to Newark are to be served year-round. U.S.-based airlines added year-round service to several airports, including Edmonton, Fredericton, Kamloops and Montreal. Several other new seasonal routes were added during the summer months. Air Canada, on the other hand, was forced to suspend

service on several routes earlier in the summer. Some of the suspended services were later reinstated, however, with more to resume early in 2004. For more details on both new and discontinued transborder services, see Table A9-18 in the Addendum.

As Addendum Table A9-19 shows, Air Canada made several changes to its international flights by reinstating service to Argentina and India and adding new routes to Chile and Costa Rica. Air Canada made extensive additions to its services to the Caribbean and Mexico; most of the new routes are being served on weekends during the winter only and are operated with aircraft normally idle during those periods. Air Canada suspended Toronto–Tokyo and Vancouver–Nagoya services at the height of the SARS outbreak but plans to reinstate these services in 2004.

Air Transat and WestJet announced an agreement that will allow tour operators affiliated with Air Transat to charter a number of WestJet crews and aircraft for flights to southern destinations. The agreement is to last two years and involves flights from several Canadian cities. Foreign airlines made a few changes during 2003. In Toronto, SATA International restored service to Portugal, and Aerosvit now provides air services between Canada and the Ukraine. Lufthansa returned to the Montreal market by introducing seasonal service to Munich.

COMPETITION

Low-cost competition, high fuel prices, the outbreak of SARS and the aftermath of the September 11, 2001, terrorist attacks in the United States continued to be felt throughout the airline industry in 2003. Worldwide, full-network air carriers struggled to adjust to the changing market and to maintain their economic viability.

Domestically, there continued to be considerable movement in capacity shares. Air Canada's domestic market share dropped from 67 per cent in December 2002 to 60 per cent in December 2003. WestJet maintained close to a 50 per cent market share in western Canada and made substantial gains in the other regions of the country, increasing its capacity share to 25 per cent on a national basis. Jetsgo increased its share from two per cent in 2002 to six per cent in 2003, while CanJet's figures remained unchanged at two per cent. Carriers such as Canadian North and First Air maintained their strength in the North, while Skyservice and Air Transat reduced their domestic presence in favour of international charter routes.

For more detailed information on domestic capacity share by airline and by region in December 2003, see tables A9-20 and A9-21 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-22.

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